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'Weak' courses and NAB

Perhaps the National Advisory Board had no choice but to tackle the problem of undersubscribed courses in the polytechnics and colleges. The two Department of Education and Science papers presented to the board did show that 4 per cent of students were consuming 8 per cent of the resources available for local authority higher education on the 15 per cent of courses which had failed to recruit the minimum number of students stipulated when they were originally approved. So there does appear to be prima facie evidence of a serious misallocation of scarce (and getting scarcer) resources which NAB could hardly ignore. In any case the credibility, even machismo, of the board is clearly on trial. Whatever NAB's doubts about the timescale, the methodology, and the implicit hints about the future direction of policy contained in the DES papers, it could not afford to be seen to adopt too casual an approach to what is by any reckoning a serious problem.

On the other hand NAB should not allow itself to become overcommitted to a dying DES policy. Long, long ago, in the second half of 1979 the department decided that an increased element of discrimination had to be introduced into the non-university sector and that this could be done by a more active manipulation of the course approval (and disapproval) system, an instrument of policy that in the expansionary years had become ineffective and even moribund. That such discrimination had become necessary and even urgent in the face of the new Government's determination to reduce public expenditure on higher education was clear, while in the vacuum created by the collapse of the Labour Government's Oakes initiative the course approval system seemed not so much the best as the only bet.

However the futility of this policy was soon recognized. The pendulum swung back to Oakes, and beyond. The recognition that course approvals were far too crude an instrument to produce the necessary discrimination, reinforced by the parallel work of the Stephen Jones group, led to the misconceived plan in early 1981 to establish, in effect, a polytechnic and colleges grants committee. Wisely this plan was abandoned last autumn and the NAB compromise put in its place.

This prehistory is not irrelevant because it helps to emphasize the very important point that NAB should not be saddled with pre-NAB instruments of policy. In anything but the extremely short term NAB itself is designed to be a new and more sophisticated instrument of policy, not a new quango to administer at arm's length policies that have already been judged to be narrow and ineffective. The course approval system certainly must be included under that heading. After all, if proper discrimination could have been exercised even approximately adequately by using existing policy levers like course approvals, there would have been no need to establish NAB in the first place.

The flaws of a course-by-course approach are clearly demonstrated in the two DES papers presented to the board last week. If the information presented in these papers is taken at its face value, two directions for future policy are possible. The first, the one in which the DES would clearly like to nudge NAB, is to attack those isolated advanced courses in predominantly further eduction colleges on the grounds that such courses are over-represented in the category of "weakly recruited" courses.

This conclusion, so satisfactory from the point of view of those who wish to intensify the apartheid between further and higher education, is only reached because the proportion of undersubscribed courses is expressed as a percentage of the advanced work within a particular institution, rather than of the total work or of its work in the same subject area. The result is therefore misleading if the intention is to make judgments about the effective use of resources. The distinction between advanced and non-advanced courses is after all quite arbitrary. Of course, there may be essentially political reasons why advanced and non-advanced courses should be kept separate, but self-serving statistics should not be allowed to masquerade as proof that their close association is a source of inefficiency. Our own view is that the boundary between further and higher, and for that matter adult, education should be as permeable as possible.

The second possible conclusion from the DES papers is that some of the larger polytechnics – Manchester, Leeds, Sheffield – are not being operated as efficiently as they should be, again because they appear to have a significant number of undersubscribed courses. This conclusion is equally absurd, although much less likely to be acted upon because few people would be prepared to accept an analysis which suggested that the worst offenders were to be found among those polytechnics which by common consent have made the most significant contribution to higher education outside the universities.

The absurdity arises, of course, because of the arbitrary and inflexible nature of the course as an administrative category. It really is a nonsense to chop up the total effort of a polytechnic or college within a particular subject or professional area (and between areas) and the total resources deployed to support that effort into arbitrary chunks called "courses", and to conclude that some are oversubscribed and that some are undersubscribed.

The only sensible basis for future planning is in terms of institutions not of courses. A polytechnic or college should be free to establish its own resource priorities within an overall staff/student ratio or within a cash-limited grant. There is no case at all for detailed petty interference in the allocation of resources over and above this general control at any rate in the meretricious cause of promoting efficiency. Such interference would only be a source of added inefficiency. It may be redundant to make this point in defence of the larger polytechnics. The Manchesters and Sheffields can certainly look after themselves, and NAB has made it clear that it will always listen carefully to the representations made by institutions and local authorities. But it is less redundant in the case of the further education colleges with only a small stake in advanced courses, although precisely the same defence can be applied. Course-by-course scrutiny is an unhelpful anachronism that should be disposed of as soon as decently possible.

In the short run NAB may have had no choice but to be seen to be doing something about undersubscribed courses. But it is a policy *cul-de-sac*, as the DES has effectively admitted by its decision to establish NAB in the first place. For this reason it is important that the board should listen very carefully to the explanations and justifications for undersubscribed courses which polytechnics and colleges will offer. Most will be amply convincing. The board should also move as quickly as possible to evaluate total institutions rather than isolated courses. After all such a switch from course to institutional evaluation is inherent in the decision to create NAB. This should be NAB's first and last exercise in sitting in judgment on "undersubscribed" courses. In the effort to reinforce academic strong points and to rendjust misapplied resources, "undersubscribed" courses are an ambiguous input rather than a final output, or proof.

Laurie Taylor

(On May 18, dons will discuss a motion to bar "prodigies" under the age of 16 from entering Oxford. *THES*)

Item seven. "Child prodigies". Doctor Baluchistein, do you wish to speak on your background paper?

Not really sir. I think the main points are perfectly straightforward. We must, I believe, all ask ourselves, and ask ourselves carefully: Is it perfectly reasonable to expose young children, however academically mature they may be in their chosen subjects, to the ambiance of university life in its fullest sense? After all what do we mean by "the university"? Is it merely the subject of one's studies, the intellectual companionship of one's friends and tutors or the political and social life. Or is it nothing more than a collective term for that balanced and mature judgment which characterizes so much of our discussion and decision making? In my submission, sir, a university is all of these elements. Complete and indivisible. And are we now to say that all this – this precious synthesis – is capable of comprehension by one who is still in the earliest stages of emotional development? Surely not.

Well thank you, Dr Baluchistein. Certainly some food for thought there. Are there any contrary views on this matter. Yes, Professor Schleswig.

I just wanted to indicate, sir, that I find myself, on balance, somewhat opposed to Doctor Baluchistein's proposal. Somewhat.

Thank you, Professor Schleswig. Any particular reason? Something which might help our discussion along a little.

Well, yes. I think his ideas are, well, er . . .

Yes, Professor Schleswig.

Well, smelly.

Thank you. Do want to come back on that, Doctor Baluchistein?

Only to say sir that I'm not surprised to hear that Professor Schleswig finds them smelly. After all if anyone is well placed to talk about being smelly – it's him.

I would have thought that I was nowhere near as smelly as you, Doctor Baluchistein.

I'm afraid I disagree, Professor Schleswig. You are very smelly. Smelly – pooh.

Smelly-pooh yourself. Smelly smelly pooh pooh.

Stink-bottom.

Pig features.

Droopy Tits.

Snot face.

Well, thank you gentlemen. I think that our discussion has helped to clear the air and clarify the main points of principle at issue here. On the one hand we have the sense that the denial of admission to prodigies is more or less smelly-pooh, while on the other hand, there is the view that a policy of exclusion is rather stink-bottom. Shall we make our decision in the usual way? Good. Eeeny-Meeny . . .

Rhetoric or reality

The National Association of Teachers in Further and Higher decided on Monday to accept, subject to final ratification, the local authorities' offer of a salary package amounting to just under 6 per cent for polytechnic and college teachers. University teachers in contrast have just embarked on serious negotiations about their much larger claim for a 14 per cent increase. The Association of University Teachers actually submitted this claim in February but keep very quiet about it formally on the grounds that claims to Committee A are confidential but probably because the AUT is wary of the political temper of its members.

The contrast between the two sets of negotiations goes beyond timing. Clearly the AUT and Natfhe take radically divergent views of what is possible (or prudent) in the present pay climate. In a similar way the local authorities accepted, after an initial hiccup, that a realistic offer had to be made, while the University Authorities Panel has toyed with the idea of a zero offer to save jobs. On the face of it there seems to be a much tighter grip on political reality on one side of the binary line than the other.

Of course, in the end the AUT will settle for a percentage increase very similar to that agreed by Natfhe. Similarly the panel, and then the Department of Education and Science in Committee E, will in the end make a realistic offer. But this will only happen after a process of mystification which will have obscured rather than illuminated the true salary predicament of university teachers and the real as opposed to the imaginary financial choices available to their employing universities.

The Natfhe negotiations in contrast were a process in which both sides were educated to come to terms with the unpleasant and unnecessary constraints that temporarily restrict the development of all public services. This is one reason why AUT negotiations so often leave university teachers in a morass of aggrieved rhetoric, while parallel negotiations for the polytechnics and colleges strengthen the political sense of Natfhe members.

In an article in the latest *AUT Bulletin* Dr Andrew Taylor, chairman of the association's salaries committee, does not help. He raises a new bannor, salary erosion (son-of-anomaly?), tries to knock the jobs-or-pay argument on the head with the big stick of the Labour Party's alternative economic strategy of import controls, planning agreements, and other socialist measures, and anathematizes the idea of an incomes policy while insisting on comparability as a principle for settling salary claims.

All of this raises expectations that Dr Taylor knows cannot be fulfilled under present political conditions, which may perhaps be excused as an exercise in cheer leading. But what cannot be excused is that such attitudes do not add up to a coherent salaries policy for university teachers which stands a chance of being effective in the medium and long term. This is how anomalies/erosions are started not how they are stopped.

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Rothschild recommends reprieve for SSRC

by Paul Flather

The Social Science Research Council, which last Christmas was on the point of execution, should be granted a full reprieve, Lord Rothschild recommends in his report on the SSRC published on Wednesday.

He recommends not only that the SSRC should not be "dismembered or liquidated" but also that no further inquisitions into its future should be held in the next three years and that its present budget should be guaranteed whatever cuts are made in the budgets of the other four research councils.

Lord Rothschild's weighty endorsement of the SSRC is a rebuff for Sir Keith Joseph, the Secretary of State for Education and Science. Sir Keith had to be restrained last autumn from abolishing the council without formal inquiry, and cut its budget disproportionately despite the protest of the Advisory Board for the Research Councils.

The SSRC and senior social scientists have given an unqualified welcome to the main recommendations of the Rothschild review. The council expressed "solid satisfaction" with the principal recommendation in the whole country and ones from which it would take a long time to recover."

Rothschild gives support to Posner review, published this week, that to abolish the SSRC "would have damaging consequences for the

Social scientists are relieved that after months of speculation the review is in favour of the SSRC, although there are a number of sharp criticisms of its structure and its failure to communicate the importance of its research to the "man in the street".

But serious concern was growing over a recommendation that the SSRC should investigate the accusation that its industrial relations unit at Warwick University is "unfairly biased" in favour of trade unions.

There was also concern about criticisms of sociology as a new discipline.

Mr Michael Posner, SSRC chairman, said this week that social science, and the SSRC in particular, was fortunate "to have such a Daniel" to judge them. But he accepted the review did not offer a coat of whitewash.

"Substantial criticisms are made, to which the SSRC will respond swiftly and effectively, with due consideration and a measure of humility." He said the past three and a half years had indeed, in Lord Rothschild's words, been spent under the sword of Damocles. "We have had our day in court. The confidence which we expressed in our case last winter, when some preached despair, has proved sound," he added.

The report is now being studied by Sir Keith Joseph. The next two months have been set aside for public discussion. Sir Keith is also inviting specific bodies to comment before giving the Government's response.

The SSRC however has decided to take a number of immediate steps to follow certain recommendations in the report. It plans to speed up a decision on the feasibility of relocating its head office, possibly in Swindon, as suggested.

Continued on page 3

Industrial relations unit attacks charge of bias

A strong defence of the performance of the industrial relations unit at Warwick University was being mounted this week against charges that it was unfairly biased in favour of trade unions.

Lord Rothschild says the serious accusation made in evidence to his inquiry should be investigated in depth. The SSRC has decided to follow the advice and is seeking a figure of high standard to head the inquiry.

The SSRC has put on record its high regard for the unit, set up in 1970 as the first of four and generally regarded as the jewel in the crown. An SSRC review has just re-approved the unit, which will receive £262,000 in 1982–3.

The accusations are made by Lord Beloff, founder of the independent University College at Buckingham, and for 17 years Gladstone professor of government and public administration at Oxford. He wrote that there has been so much dissatisfaction with the strong pro-TUC bias of the unit that a new Institute of Labour Affairs is being set up by a group of businessmen and academics under Sir Leonard Neal.

Lord Beloff told *The THES* he was simply reflecting a general view. "The unit has made itself a partisan of TUC views, rather than holding more detached academic views."

He said the unit had been dominated by its former director Professor Hugh Clegg, who openly identified with the Labour movement. "This is a perfectly honourable position."

The Rothschild review says any inquiry should explain why the unit published a book on the 1971 Industrial Relations Act but no comparable work on the 1974 and 1976 Labour Relations Acts, although staff have commented on the 1980 and 1981 employment Bills. Lord Rothschild added this week he had no personal view on the matter, but accusations from a respected member of the academic community must be treated seriously.

Lord Beloff said that unit had done no work on comparing industrial relations between British and other advanced countries, nor completed the badly needed Oxford history of trade unions beyond volume one.

Professor William Brown, the unit's current director, said he was shocked to hear such accusations were being taken seriously. "Naturally I shall cooperate fully in the inquiry and I am confident that our unit's record will stand up well to independent scrutiny," he said.

Early cash averts crisis at Aberdeen

by Olga Wojtas
Scottish Correspondent

Scotland's two worst hit universities, Aberdeen and Stirling, have gained concessions from the University Grants Committee.

The UGC has not changed its decision to cut Aberdeen's recurrent grant by a quarter, but has, however, paid the July instalment of the grant, £1.8m, early, helping to reduce Aberdeen's overdraft substantially. Aberdeen's projected deficit by July is £1.3m.

It is likely that the move has resulted from strong representation from Aberdeen's principal, Professor George McNicol who has pointed out that 53 per cent of Aberdeen's cut has been in the first year, and that it would start next session with "a large and inescapable overdraft" necessitating further compulsory redundancies.

The UGC this week told Stirling that its cut of around 700 places would be reduced by 40. Stirling suffered a 27 per cent cut in student numbers, and 23 per cent cut in grant, and there are hopes within the university that the UGC will make further financial concessions.

Stirling's Association of University Teachers has estimated that the extra 40 student places represent an annual income of £130,000 which could save four lecturing posts. Stirling has not yet set any figure on potential redundancies.

The university's academic council will hear recommendations in June from the committee on academic development on how the extra student numbers should be distributed. It is likely to be proposed that some go to the physics department, where honours courses are threatened.

Bluff and counter-bluff, page 8

Sir Alex Jarratt, chairman of Reed International, lays the foundation stone of Birmingham University's new Institute for Occupational Health. Looking on are Professor Edward Marsland, the vice chancellor (in the wheelchair) and, from left to right, the Lord and Lady Mayoress of Birmingham, the chairman of West Midlands County Council and Sir Peter Scott, chancellor of the university.

NUU will stick by its charter, says Cockcroft

The vice chancellor of the New University of Ulster, Dr William Cockcroft, has threatened to defy the Government over its plans for a merger with the Ulster Polytechnic by standing by NUU's existing charter.

In a letter to the Department of Education in Northern Ireland, Dr Cockcroft noted that the university had agreed to enter into discussions on the possibility of a merger. But he added: "It does not mean, however, that at this point in time the university has accepted that a merger is inevitable."

While stressing that the university remained willing to consider merger plans, Dr Cockcroft said: "I must make it clear that we have obligations under our charter and for as long as the charter exists those obligations must be met. They cannot be changed by dictat from any organization constituted outside the charter, and that must include any planning body nominated by Government to consider our future, however impressive its membership or manner of appointment."

Not only must the university's senate and council be consulted on the merger proposals, but advice would be taken to ensure that the framework of the charter was observed, he added. Legal advice was being sought urgently and some had already been obtained.

The under secretary of state for education, Mr Nicholas Scott, has made no response to criticisms from Dr Cockcroft and the AUT, but he has indicated in letters to the head of the institutions how he intends to move forward with the merger. He said that he will soon announce the membership of a steering group to prepare the aims and objectives of the new university, set about its establishment, appoint a vice chancellor-designate and other senior academic and administrative staff.

Below the steering group, there will be consultative group, drawn mainly from senior staff at the two colleges involved. It will consider matters like the range and content of courses, their spread over the three campuses at Coleraine, Jordanstown and Derry, arrangements for academic continuity for students caught in the changeover, the maintenance of academic standards, the running and validating of non-degree work.

South Africa touts for links with British universities

by David Jobbins

The South African government is trying to forge closer links between Britain universities and its own higher education system. A senior official has been attached to the South African embassy with the specific brief of encouraging exchanges of students and academics and information on research.

Dr Michael Leighton, counsellor for cultural affairs at the embassy has had a mixed response. This week he was on a tour of Scottish universities, including Glasgow, St Andrews and Stirling and says he has visited "three or four" others since January. He has been rebuffed by an unspecified number.

He wrote to the registrars of all universities setting out his broad aims and suggesting meetings with vice chancellors and with academics in 10 specific fields.

After describing his role at the embassy, his letter adds: "This is, as far as one may be allowed, a non-political function, and is designed to advance the cause of education and culture among all the peoples of South Africa, rather than the relatively small white elite."

Dr Leighton, an academic, is disappointed that while most responses have been diplomatic others have indicated that a visit would arouse hostility from staff and students.

"This worries me because even though it may be argued that there is not an ideal amount of academic freedom in South Africa, this does not mean people in other parts of the world are excused for limiting academic freedom themselves."

He blames South Africa's poor image among British academics on the anti-Government line portrayed in the English language press. "The non-Afrikaans newspapers tends to back an anti-government line and imply that the government is in favour of beating blacks for Sunday afternoon entertainment which is just not so."

He accepted that some refugees had grounds for complaining.

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Dundee calls halt to redundancies

by Olga Wojtas
Scottish Correspondent

Dundee University court this week decided not to reinstate a scientific officer who an industrial tribunal found to have been unfairly dismissed, although it has lifted the threat of compulsory redundancy on other staff.

At a hearing two weeks ago, the tribunal ruled that Mrs Elizabeth Dick, a research team member in the anatomy department, should be reinstated. The court decision was made before the university received the tribunal's written remarks, giving the reasons behind its ruling, and is understood to be final.

At an earlier hearing, the university agreed that it had prepared for the University Grants Committee cuts by seeking redundancies among part-time temporary staff, but the tribunal also heard that although Mrs Dick worked part-time, her contract was permanent. The case was seen as one of the first compulsory redundancies resulting from the cuts.

But although the court decided not to reinstate Mrs Dick, it agreed not to make a decision on compulsory redundancies before October. Earlier this academic session, it had said there would have to be 11 compulsory redundancies in July, possibly rising to 15 as a result of axing the medical biophysics department. It is still not certain whether medical biophysics has now been reprieved.

The court's change of mind follows a call from senate to halt redundancy plans until an up-to-date financial statement was produced.

However, there are indications that a new financial outline will show that Dundee's finances are worse than expected, although more than 60 academics are leaving through early retirement and voluntary severance and that still greater savings will have to be made.

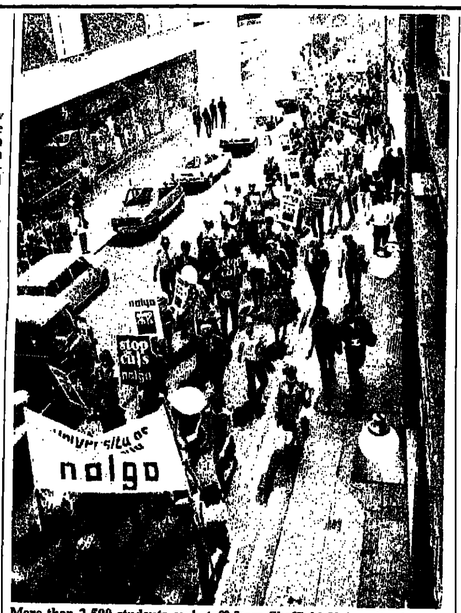
The university is likely to be involved in heavy expenses over Mrs Dick's case. Mrs Dick received a letter from UGC chairman Dr Edward Parkes, saying the UGC had not considered paying legal expenses in industrial tribunals, that this would in any event only be done at the request of the university and that Dundee had not made any application.

Dundee cannot be forced to reinstate Mrs Dick, but since it has defied the tribunal's ruling, it will have to pay her a higher amount of compensation.

● Academics at Dundee are to write to the court claiming the principal behaved unconstitutionally in refusing to convene a staff meeting wishing to discuss motions to be put to court this week.

Principal Adam Neville had said that eight days was too short notice to call a meeting of the academic council which includes all staff members.

The meeting intended to consider motions calling for the new financial outline to be vetted by external auditors, and for the senate to reconsider its concurrence with the state of financial stringency, a preliminary step in declaring compulsory redundancies. Another motion urged improved communication between senate, court and academic staff.



More than 2,500 students and staff from Sheffield University demonstrated against university cuts in the city last week. Mr Phillip Whitehead, Labour's spokesman on higher education, and Professor Geoffrey Sims, the university's vice chancellor, were among the speakers at a rally claimed to be the largest held against UGC cuts.

News in brief

Biotechnology hand-out

Three universities are to be given a total of £900,000 to develop their work in biotechnology, Sir Keith Joseph, Secretary of State for Education, announced last week in the House of Commons.

Birmingham University, University College, London, and the University of Manchester Institute for Science and Technology will each receive £100,000 per annum for three years to "strengthen the discipline base of the subjects which contribute to biotechnology." They are expected to enable new posts to be created, with special emphasis on engineering.

Stress study

The Social Science Research Council has awarded £22,870 to a study of the job satisfaction and stress experienced by university-trained engineers in industry. Dr Tony Keenan, senior lecturer in the business organization department, Herriot-Watt University, leads the study, a continuation of an earlier SSRC – one on how graduate engineers adjust to the world of work.

Experts show off

The second British Scientific and Technical Education exhibition, with equipment from 23 British companies, takes place in the Regency Hotel, Seoul, Korea, this week.

The exhibition sponsored by the British Scientific Instrument Manufacturers Association, hopes to attract representatives of industry as well as academic teaching and research.

Handsome appeal

A £250,000 Government grant is to be made to the Royal Academy appeal in the hopes of encouraging others to contribute "handsomely," arts minister Mr Paul Channon has announced.

APT case

The Association of Polytechnic Teachers has called on the Inner London Education Authority to explain why it has been refused recognition. Its London chairman, Mr Gwyn Jones, complained this week that APT had been denied a chance to present its case.

Oil find

A technique developed at the University of Manchester Institute of Science and Technology, of chemically identifying organic-rich rocks with oil or gas generating potential, could save up to £60,000 a day in exploration and drilling costs.

Backed by the Department of Energy, Mr John Bather's technique provides analysed results within one hour, compared with 4–14 days for existing methods. UMIST has now set up a small company to handle the commercial application of the breakthrough, and will be offering the service to the world's gas and oil industries.

Wright's on

The new master of Christ's College, Cambridge, is to be Sir Oliver Wright, a former ambassador to Bonn. He was elected by college fellows last week after manoeuvres said to have rivalled those in C. P. Snow's novel *The Masters*. He succeeds Professor J. H. Plumb, the historian, who retires in July.

Doctor prince

Prince Charles received an honorary doctorate from the Open University at a degree ceremony in Milton Keynes last week. Earlier he opened the new £8m BBC/OU production centre and named it the Perry building in recognition of Lord Perry of Walton, the university's founding vice chancellor.

Left losing influence over lecturers

by David Jobbins

The influence of the left on the leadership of the college lecturers' union seems on the wane after the first round of voting for the national executive committee.

Two key left-wingers have so far failed to retain their seats on the 25-member executive of the National Association of Teachers in Further and Higher Education.

A chance for one of them to win a place back comes today with a second ballot for the single remaining seat. The results will not be officially disclosed until the union's conference in Newcastle next week.

The two left-wingers are Ms Tricia Leman and Ms Sandy Grant, both of whom have recently taken a firm line on a number of issues including the row over the Association of Polytechnic Teachers and the new training initiative.

They and a third inner London region member of the executive, Mr David Triesman, suffered a major decline in their votes. Mr Triesman however managed to cling on to his seat.

Natfhe's executive is elected not by its 73,000 membership but by its 100-member national council, and there are suggestions that the three figured on a right wing list designed to damage their chances.

Other reasons for the setback include resentment from other regions that inner London had secured as many as six representatives on the present executive and the return of past president Mr Jim Richardson to the elected section of the committee.

Candidates had to gain more than 47 votes to win a place. Ms Leman won 44, topping the list of those to take part in the second ballot, and Ms Grant 32.

The numerical strength of the left is likely to remain unchanged but sources say that its influence and experience will be badly hit by the removal of either of the two. Both work in further education. Ms Grant has played a key role in negotiations over salaries and conditions and Ms Leman has secured a place on the TUC's women's advisory committee. She chairs the union's women's rights standing panel and is an architect of the campaign to make women more active in the union's affairs.

Union threat to poly move

by Charlotte Barry

Industrial action at North-East London Polytechnic threatens plans to reorganize its structure and reduce the number of sites.

The main polytechnic unions were this week seeking assurances for their director Mr Gerry Fowler that there would be no compulsory redundancies over the next two years.

The unions are angry about Mr Fowler's proposals to deal with the polytechnic's financial crisis, which could lead to losing up to 325 academic and non-teaching jobs over the next three years. The director wants to avoid compulsory redundancies, but says this will only be possible provided he can agree a detailed set of conditions with the unions.

A mass meeting of the polytechnic's main union was expected this week to approve a programme of industrial action unless the threat of compulsory redundancy was removed.

The programme would include blacking all moves and reorganizations, which would provide a serious setback to plans to vacate the Three Mills, Lyon House and The Grove sites this summer, and the Waltham Forest site next year.

Union members would also refuse to cover for vacant posts and boycott all internal and external recruitment until agreement was reached with the unions.

A polytechnic governors subcommittee was this week discussing a recommendation to demote 14 administrative officers posts.

Five-year limit on Surrey jobs

Surrey University has decided that because of national discussions under way concerning tenure, new academic staff appointments will be for five years.

A special clause has been inserted in the particulars of lectureships, senior lectureships, readerships and professorships now being advertised.

It reads: "Applicants will understand that universities are having to undergo a period of readjustment which will take a little time to complete and that the form of tenured appointment may be changed.

"In the meantime, a number of key appointments are being made and those will initially be for a period of five years. They are however intended to be permanent appointments and will be transferred to this status as soon as the future form of university tenure becomes clear."

The Committee of Vice Chancellors and Principals has recently circulated all institutions with guidelines for new tenure provisions which would enable institutions to make staff redundant for compelling financial reasons.

Mr John Akker, deputy general secretary of the Association of University Teachers said: "We are shocked that Surrey is jumping the gun before any discussions have taken place with the local or the national association."

Dons say no to review

Oxford and Cambridge have given a cool reception to call for a new Royal Commission on the two universities.

Sir Peter Swinnerton-Dyer, master of St Catharine's College, Cambridge, former vice chancellor of Cambridge, and a Social Democrat spokesman, who said last week that all great institutions need spring-cleaning from time to time.

The vice chancellor's office at Cambridge, now occupied by Professor Harry Hinsley, said the speech had been noted but there was no intention to comment further. At Oxford they felt there was real reason for such a commission.

Initial reaction from the office of Mr Geoffrey Warnock, the Oxford vice chancellor, was that a Royal Commission would be like taking a sledgehammer to Oxbridge's problems.

Oxford said that its admissions policies, the area Sir Peter had chosen as the main issue for a public review of Oxbridge, were under constant review anyway. Admissions from state schools have increased steadily in the past five years, and now accounted for half the total.

Oxford admissions tutors are to discuss the principle of moving their special entrance exam to precede A levels for all candidates. Cambridge discussed the idea last term but could not agree.

Scientists defy secrecy call

Defiant civil servants will continue to speak out against cuts in government scientific research establishments despite Agricultural Research Council's attempts to silence them, the Institution of Professional Civil Servants heard on the opening day of its annual conference in Bournemouth this week.

General Secretary of the IPCS, Mr Bill McCall, told conference delegates: "My message to the Agricultural Research Council is simple and clear. The institution will continue with its opposition and will continue with a campaign against the cuts."

The move follows widespread anger at a letter from the secretary of the ARC, Dr Ralph Riley, to one of its research establishments: Long Ashton, near Bristol. Scientists there have been protesting at the ARC's decision to cut £450,000 off its £3.58m budget next year, involving the loss of 150 jobs and a number of projects.

The letter warns: "There must be no further public or private opposition to the council's wishes by those in positions of responsibility."

An IPCS spokesman said that the union would defend members, but suspected that individuals would be intimidated by ARC and their signing of the Official Secrets Act.

The mid-career pick-me-up

by Charlotte Barry

A £2m Government programme for universities and colleges to provide more refresher courses for workers in industry and commerce was unveiled this week.

Long-awaited details of the Professional and Commercial Updating Scheme (PICKUP) were announced by Mr William Shelton, under secretary of state for education, at a conference in London organized by the British Association for Commercial and Industrial Education.

Up to £1m will be spent on sponsoring a series of regional workships and appointing four regional development officers who will advise colleges on how to put on PICKUP courses.

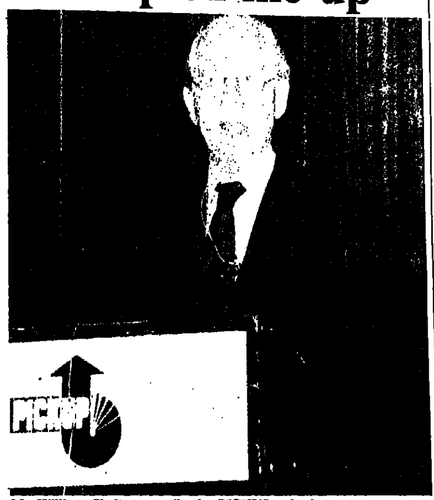
The Government will also sponsor the Further Educational Curriculum Review and Development Unit to develop course materials and teaching methods and a PICKUP handbook. A further £1m has already gone to the Open University to produce PICKUP courses and home study packs in its continuing education faculty.

Mr Shelton said courses should be self-financing but academics at the conference said it would be difficult to increase provision without a change in local authority funding arrangements. Mr Peter Holmes, assistant director of Bristol Polytechnic, said that many colleges were not allowed to use fee income to launch courses.

"If income is generated there's no way they can reinvest it and use it for development of new courses. How are you going to solve that problem?" he asked.

Mr Shelton said a questionnaire sent out recently by the Association of College Registrars and Administrators would gauge the extent of the problem. There were also signs of informal local agreements being reached to overcome the difficulty.

Earlier he said that universities and colleges should not be ashamed to take a more commercial approach. "By this I mean more than recovering only direct or marginal costs," he stressed. "It is possible for an educational institution, be it a college, polytechnic or university, to capitalize on the investment in other educational activities in order to be able to produce a highly saleable and profitable product."



Mr William Shelton unveils the PICKUP refresher programme.

Refreshing the people

Polytechnics and colleges must devote more energy to developing short refresher courses for people in mid-career, Dr George Tolley, principal of Sheffield City Polytechnic, told the conference.

Barely 1 per cent of all teaching resources went into mid-career provision, he said. That should rise to 5 or 10 per cent if Britain was to come to grips with the twentieth century.

Dr Tolley stressed the need for more updating, upgrading and retraining of people in mid-career, particularly technicians and supervisors. He welcomed PICKUP but criticized the lack of funds provided by the Government.

"What the Department of Education and Science is now proposing to do in injecting some £2m to PICKUP initiatives is helpful and reassuring," Dr Tolley said. "But the extent of the commitment does not seem great, and may appear to lack priority, when compared with the £11m or so which the DES gives by way of direct grants every year to general adult education."

Five major courses of action should be implemented, he said. A national working group should be set up to report on priorities for action and up to 50 field workers appointed and based on consortia of colleges and industry.

Three or four centres must be designated for training and development of teaching staff and restrictions on secondment to industry removed, Dr Tolley added. Validating bodies should also review and change their arrangements to encourage mid-career courses.

Physics heads angry in 'naming names' row

by Ngaio Crequer

The head of the physics department at London University's Westfield College has been relieved of his planning duties because he refused to draw up a list of staff to be transferred to Queen Mary College.

Professor Brian Donovan was told in a letter this week from Dr Bryan Thwaites, the Westfield principal, that the staff reduction sub board set up to look at redundancies will now look at planning in physics.

Following Westfield's decision to transfer physics and chemistry to QMC, heads of both departments were asked to name the staff who would be transferred.

But Professor Donovan said the list was premature and inappropriate. The question was one concerning the whole reorganization of science in London University on five sites, not a simple one to transfers from one college to another, he said.

"I am not going to draw up the list. It is a confrontation situation between myself and the principal. My decision was not a personal one but taken on academic grounds, and approved by the deans of the faculties".

The problem is complicated because the university's designated fifth site for science is Royal Holloway College, where merger plans with Bedford College have been delayed. The physics board of studies has discussed the Westfield proposals and backs Professor Donovan's stance. He is also supported by Professor John Charap, head of physics at QMC.

University physics heads have written to the vice chancellor, professor Randolph Quirk, for guidance.

The Association of University of Teachers is seeking legal advice concerning the position of staff who name others on what could be redundancy lists.

Mr John Akker, deputy general secretary, said there was no financial reason for redundancy at Westfield and they would take any case to the courts.

● The Westfield arts faculty have invited the Bedford arts staff to join them. A letter from the arts dean at Westfield was read to the Bedford academic board this week saying they had voted overwhelmingly to invite them to join them.

Mrs Doris Birdsall

Mrs Doris Birdsall, the former chairman of Bradford education committee, was not voted out of the chairmanship as *The THES* incorrectly reported last week. In fact she had decided some time ago not to stand again and did not allow herself to be nominated at the meeting of the council's Labour group. We apologise to Mrs Birdsall for any embarrassment that our earlier and inaccurate report may have caused.

Academic 'pimps'

Many academics "felt like pimps" because they had to travel abroad to recruit overseas students, Mr Tom McNally, the Social Democratic Party spokesman on education claimed this week.

Speaking at Question Time in the House of Commons, Mr McNally (MP for Stockport south), said Britain's universities were already attracting the richest and second-rate, rather than the brightest and best students from overseas.

AUT looks at 4% pay offer

University academics are backing away from immediate industrial action in the face of 4 per cent pay offer.

A resolution to be discussed at a closed session of the Association of University Teachers council tomorrow instructs negotiators to make every endeavour to make sure lecturers are not treated less favourably than other public sector workers.

It firmly rejects an offer of 4 per cent which is all the vice chancellors say they can afford. But it calls for more negotiations and an emergency council before a final settlement.

The union is claiming 14 per cent – including an extra 2 per cent to restore differentials with the public sector.

Pay promises to be the dominant issue of the AUT's council. A second session of the university negotiating machinery (committee A) was scheduled for yesterday morning.

Report condemns proposal as 'intellectual vandalism'

by Paul Flather

To dismember or liquidate the Social Science Research Council would be an act of "intellectual vandalism" and would have damaging consequences for the whole country from which it would take a long time to recover, Lord Rothschild says in a report published this week.

Lord Rothschild recommends the SSRC should be retained and freed from further inquiries, apart from those required by Parliament, for a minimum of three years from next month.

He also recommends that the Government should not reduce the SSRC's budget in real terms below the 1982–83 level for at least three years "irrespective of what happens, through sheer necessity, to the other research councils".

Lord Rothschild began work on his review in February after Sir Keith Joseph, secretary of state for education, asked him to report on the scale and nature of the council's work with regard to the principle that applied research and development should be done on a customer-contractor basis.

He says the customer-contractor principle has little application to the kind of research sponsored by the SSRC. It is therefore necessary to have an independent body to fund research for which no obvious customers exist.

After discussing in some detail the pros and cons of shifting the administration of postgraduate awards to the Department of Education and Science, Lord Rothschild recommends the SSRC should retain control.

The report goes on to pinpoint a number of administrative weaknesses with particular criticism of the SSRC's failure to communicate the importance of social science research to the "man in the street and not only *The THES*."

In this respect the efforts of the council are "primitive and unprofessional", Lord Rothschild says. He criticizes the excessive use of jargon, and recommends the SSRC buy four copies of Sir Ernest Gowers' *Plain Words* at a cost of £6.50 and ensure that it is read by those at head office who write or dictate for internal as well as external consumption".

He says the results of this failure have been serious and contributed to the establishment of the inquiry. "These observations are not made in a spirit of idle pedantry. They are made to help the SSRC put across to the layman the importance of social science research."

Lord Rothschild's other main recommendations are:

● The number of SSRC panels to be drastically reduced.

● Payroll strength should be studied to see how many people are made surplus by computerising head office work.

● Relocating the head office at Swindon studied with urgency.

● There should a full time executive. If it is the chairman the appointment should be for at least six years.

● The chief executive need not be a social scientist but he must be a first class administrator.

● Head office staff be eligible for civil service qualification certificates which will encourage staff mobility.

● The SSRC to publish annual reports on the PhD completion rates by university.

● The SSRC to encourage more American-style PhD programmes, with taught one-year courses followed by two years' work on a thesis.

● The SSRC to investigate the accusation that its industrial relations unit at Warwick University, and the panel for monitoring labour legislation, are unfairly biased in favour of unions.

● The SSRC should improve links with industry in private and public sectors.

● Referees should not be chosen exclusively by the SSRC head office staff, but in formal consultation with experts in the field.

● The SSRC must improve its communications, as regards style, content, and presentation.

● The SSRC is not to help establish new departments or sub-departments of sociology, nor finance those which specialists consider to be sub-standard.

The report has about 40 pages of extracts from 27 of the 320 written submissions sent as evidence to Lord Rothschild. This is seen as an integral part of the inquiry. Special emphasis is given to the small number of submissions critical of the SSRC, with the arguments carefully discussed.

The report contains sections on the meaning of certain words and phrases, including social science and sociology, on "Why social science? and "Why a SSRC?", on social anthropology under the title "More evidence: about the disappearing world", and a final chapter on criticisms of sociology and the SSRC.

Lord Rothschild says that the SSRC's spending has been cut so much, 24 per cent in real terms in the last five years, that only the top echelons of social scientists can now be supported.

He says neither the British Academy nor the University Grants Committee have any money to take over social science postgraduate training nor would they accept the task even if they had the money. The same applies to the big charitable bodies and the four clearing banks.

"It is highly likely therefore that if the SSRC were not to receive its grant, research would not be done and yet more academics, about 600 according to the SSRC, would become unemployed," he concludes.

Rothschild recommends reprieve

continued from front page

It plans to "go further and faster" in its plan to reduce the number of panels and committees following criticisms that it is "too bureaucratic". It will investigate an important recommendation that in future subject referees should not be chosen only by SSRC head office but in consultation with experts in the field.

The SSRC is near to securing an agreement to reduce its staff from 139 to 143, and plans to spend more time and money on efforts to improve its communication; and eliminate unnecessary jargon. The report was welcomed by Professor Ralph Dahrendorf, director of the London School of Economics, who said there was a clear need for a research council for social sciences. "This is the right answer. None of the other solutions of handing the task to the British Academy of the Science and Engineering Research Council, could have worked."

Professor A. H. Halsey, professor of social and administrative studies at Oxford University, said he was very pleased Lord Rothschild had refused to do "a nasty hatchet job" as he had been asked to do.

"The main recommendations make good sense. If the SSRC was abolished it would have had to be invented again." Professor Halsey was less happy with a recommendation the SSRC should not prop up substandard sociology departments, which he described as purely gratuitous.

Professor Margaret Stacey, professor of sociology at Warwick University, and British Sociology Association president, praised the independence of mind shown by Lord Rothschild. "He has obviously read all the evidence sent to him and weighed up the arguments," she said.

Professor Robin Mathews, master of Clare College, Cambridge, an economist, and a former SSRC chairman, said he was very happy with the general drift of the report, and Professor Alan Little, professor of social administration at Goldsmiths' College, London, said three years would be time enough for the SSRC to put its house in order.

Professor John Eldridge, professor of sociology at Glasgow University, said the report would give an important "breathing space" to social science research, particularly encouraging in view of the climate in which the review was launched. He was concerned about criticisms of sociological research.

An Enquiry into the Social Science Research Council by Lord Rothschild, Cmnd 8554, HMSO price £6.50.

Manual workers threaten exams

by David Jobbins

Examinations and degree ceremonies in universities are threatened by industrial action by non-teaching staff seeking improved pay offers.

Technicians have launched a campaign of selective strikes and other sanctions equivalent to three hours a week. And manual workers including porters and catering staff are to plan industrial action of their own if the university employers fail to improve an offer of £4.29 a week to all grades when the two sides meet on June 8.

Their leaders have suggested this should be timed to have the maximum impact on examinations and other key events in the university calendar. Demonstrations, a letter campaign to local MPs and even occupations are also recommended.

The technicians have rejected 4 per cent and informed the independent Advisory, Conciliation and Arbitration Service (ACAS) that negotiations are deadlocked.

The technicians' action, planned to last until the dispute is settled, could affect practical examinations and threaten long-term research projects. Manual workers may refuse to put desks in examination halls and distribute papers. They are to ask other campus unions not to undertake work which they have refused to do.

The Association of University Teachers, whose members will bear the brunt of any action by the non-teaching unions and is also making little headway in its own pay negotiations, said this week it would consider any such request when it was received.

The National Union of Students is to seek discussions with the unions involved to minimize the effect on its 250,000 members in the universities.

Significant numbers of students have already finished their examinations, but thousands of others would be hit. NUS president Mr David Aaronovitch commented: "I am certain that before this happens there will be consultations."

He emphasised the growing recognition among students of the plight of university non-teaching staff and support for their case.

Union officials are not confident that the university employers, their backs against a wall built by the Government when it cut spending and imposed a 4 per cent limit on pay, will be able to make any improvement. They are resigned to industrial action, but the resolve of union members to fight for better pay when jobs are at stake has yet to be tested.

Of the three manual workers unions, NUPE has firm authorization from its executive for industrial action. The TGWU is expected to give full backing to its university members, while the General and Municipal Workers' Union, which voted reluctantly to accept the offer but was overruled by the other unions, is also expected to follow suit.

A circular detailing the effect on pay packets of the employers' offer is being sent to branches. After deducting stoppages, the £4.29 is reduced to an extra £1.91 a week for the lower paid and £1.71 for the higher paid, according to the unions.

Cathy Chilton (left) and Liz Newport, design students at the University of Manchester Institute of Science and Technology, relax with a cocktail while waiting for an external examiner to assess their finals project work. They are sitting among Cathy's section of the exhibition of her work. Her theme was "packaging" and one of the results is the deckchair (centre) designed like a giant tube of toothpaste.

Computers could help students to make choices

Two important computer-based projects to help students pick courses when and where they like and to find appropriate careers and to be announced by the Department of Education and Science.

Last week the DES confirmed it was inviting tenders for the design and testing of a credit transfer system which would allow students to switch more easily between work and college and between institutions.

And this week the DES revealed details of a new £15,000 feasibility study into the provision of a common computer-aided careers guidance system for undergraduates.

The study has been given a six-month time limit to emphasize DES concern about the need for efficient and effective careers advice at a time of significant graduate unemployment. Mr Peter Pierce-Price, careers adviser at City University, will head a review of computer systems in Britain, Canada and America, backed by the Association of Graduate Careers Advisory Services.

A spokesman said the DES wanted to develop a powerful back-up system to the careers services given by institutions, now under increasing pressure as student demand went up and resources went down.

Oxford University appointments board for example, in a report published last week, warned there was no doubt their service would be reduced as demand increased (registrations are up 25 per cent in five years) and resources decreased (set to fall by 8 per cent by 1983).

The new credit transfer project is widely interpreted as the final step towards major new reforms in higher education which could eventually allow students in Britain to take up "packages of education" when and where they want.

The project, as revealed in *The THES*, will be tested in the south west and could lead to a full scale national credit transfer system, like that in the United States.

The project, seen as a computerized information service, will be known as the Educational Counselling and Credit Transfer Information System (ECCTIS).

The DES says the system will encourage flexibility in higher education, and provide "missing information" on syllabuses and qualifications for access by students choosing courses, by colleges assessing admissions, and by employers recruiting graduates.

It was first discussed in 1977, when a steering committee said there was a need for such a service. A study by Mr Peter Toyne, now deputy director of West Sussex Institute of Higher Education and head of Bishop Otter College, suggested 18,000 inquiries a year would be lodged with such a service.

Institutions are said to be largely in favour of the service. A survey showed that 328 bodies, out of 433 who replied from more than 600 asked, said they would use it, and 264 said they would pay for it.

ILEA help 1,000 young

by Charlotte Barry

Inner London councillors were expected this week to approve the immediate provision of 1,000 extra places in further education colleges for unemployed young people.

The £800,000 necessary for the package considered by the Inner London Education Authority's further and higher education sub-committee will be largely met from savings in next year's polytechnic and schools budgets.

The five inner London polytechnics will be asked to save a total of £300,000 out of their combined block grant of £60m. The polytechnic directors have asked if they can decide how the reduction is shared out between institutions.

The Polytechnic of Central London will be asked to take its share of the cut only if the authority decides to approve its block grant for 1982–83. Councillors approved level funding for the four other institutions in March, but decided to withhold PCL's grant until it sorted out its financial affairs.

A joint advisory committee set up by ILEA and the polytechnic's court of governors will report back to the authority next month.

A paper laying out the need for urgent developments in further education colleges, and considered by councillors this week, says that the growing number of students has placed strains on governors' allowances as the only increase in these has been for inflation.

Particular problems are occurring in colleges which are now required to provide free materials for students under 19, and those which have made major efforts to provide on-the-job experience for trainees.

Extra accommodation is now needed for extending youth opportunities programmes.

Nato scheme for scientists approved

by Karen Gold

A programme to increase international collaboration between academic scientists and industry has been set up by Nato, and has received provisional support from Britain's scientific establishment.

The Brussels-based director of Nato's non-military science and environmental studies programme, Professor Robert Chabbal, flew into Britain last week for talks with the Science and Engineering Research Council and industrialists about Nato's new "double-jump" programme.

He received qualified support for the scheme, setting up fellowships for academic and industrial scientists to take temporary positions in other countries and unfamiliar academic or industrial surroundings.

For the first time in Nato's civilian science programme, the "double-jump" is to be funded by Nato providing 50 per cent of the fellowship and the other half being provided by governments opting into the scheme to the extent they choose. Britain has agreed to opt in for an experimental period.

The first two fellowships have just begun: a Belgian university scientist and a Belgian industrial researcher have just left for an American industrial laboratory and a university respectively.

There are ten more such applications under consideration, according to Professor Chabbal. That makes the scheme small fry at this stage compared with Nato's other 1982 civilian science innovation: the establishment of a series of 22 Advanced Research Workshops in all branches of science.

These extensions of the specialist summer programmes Nato already runs are planned eventually to absorb 15 per cent of the $18m budget. From that budget are provided almost 50 per cent of all international short-term science training such as fellowship research grants, summer schools and collaborative research programmes, according to Professor Chabbal.

Schemes such as the "double-jump" are designed not only to boost science research of all kinds in Nato countries, but also to attract additional funds to those granted by the organization's civil budget.

To keep up with these developments and meet the 30 per cent increase in advanced study applications this year alone, the Scientific Affairs division needs a 30 per cent increase in income in real terms. The sum they are more likely to receive is 15 per cent, in cash value only.

Divine intervention by UGC

Scotland's divinity faculties could be axed from four to two as a result of the University Grants Committee cuts.

The move has been precipitated by Glasgow University where, over the next two years, four of the six divinity professors will retire and the university has decided to amalgamate three departments into a single department of theology from October, 1983.

There may be further restructuring within Glasgow's divinity faculty. The UGC has approved this and indicated that money would be made available for general restructuring of divinity teaching in Scotland.

But this is not a decision for the universities alone. The divinity faculties of the four ancient universities, Aberdeen, Edinburgh, Glasgow and St Andrews, are the only approved training places for Church of Scotland ministers, and this is reflected by the church being jointly represented with the universities on nomination boards to theological chairs.

The church's main nomination board has proposed scrapping posts in required training subjects, whether these are chairs or not.

But Glasgow's nomination board has further recommended "that steps now be taken to discuss the merits of a reducation of the number of faculties of divinity in Scotland" by both the universities and their general assembly of the Church of Scotland, meeting in Edinburgh this week.

Glasgow is not proposing its own annihilation. The church's education board has said that although the number of courses offered at Glasgow will be reduced, the basic church training requirements will continue to be met.

The two faculties most at risk are at Aberdeen and St Andrews, both because of their geographical position and because of their small number of intending Church of Scotland ministers.

While each faculty has a good number of students, the church could well decide that all four are no longer necessary as training places because of falling numbers of ordinands.

Subsequent restructuring of the

Peace pioneers forced to fight for funds

The survival of the pioneering Richardson Institute for Conflict and Peace Research, based at Lancaster University, is threatened by the loss of external funds.

A Rowntree charitable trust hit by the recession, has withdrawn financial support for one of the two full-time readers. The work of the remaining member is now very vulnerable, according to the institute.

"The undergraduate teaching, despite a large and increasing demand for courses in peace studies, will be severely curtailed. The PhD and MSc programme in addition to being hit by cuts in the Social Science Research Council and the Dutch government for similar studies, conferences and lectures will similarly decline; and a barely viable institute, lacking even minimal secretarial assistance, will find itself hard pushed to survive," it said.

The institute, which is based at the university's department of politics has four graduate students and more than 80 undergraduates reading peace studies.

The institute is launching an appeal to ensure its continued success. In particular, it wants to raise funds to employ a younger fellow in peace studies, as well as secretarial and other support. The fellow would peace movement in terms of day schools, conferences and lectures will similarly decline; and a barely viable institute, lacking even minimal secretarial assistance, will find itself hard pushed to survive," it said.

It has also approached the SSRC, the Science and Engineering Research Council and the Dutch government for funding.

"There is a greater need than ever for the publications and services of the Institute. Much of the research, such as that on alternative defence policies and on non-violent resistance, is of particular relevance today," the statement said.

Professor Philip Reynolds, vice chancellor of Lancaster said the university had always had a strong commitment in peace studies and this would continue. Although it

Sir Alfred Ayer: elected president.

What Japan can teach us about tenure

by Paul Flather

Tenure helps academics in British universities, as it helps workers in Japanese factories, to produce good effective work, Professor Richard Hare, professor of moral philosophy at Oxford University, said last week.

Professor Hare told an inaugural meeting of the Society for Applied Philosophy at Surrey University that philosophers needed "to win the intellectual argument" against the opponents of tenure.

He criticized people, including Sir Peter Swinnerton-Dyer, former vice chancellor of Cambridge University, who argue that tenure produces "dead wood" and removes work incentives.

"Everywhere you go in America you hear the argument if you have tenure you are not kept on your toes. These are bad arguments. We teach and work more effectively than institutions that do not have tenure, and we are more cost-effective," he said.

In a widely reported speech last year, Sir Peter, who is master of St Catharine's College, Cambridge, attacked tenure, saying it produces "aging lecturers repeating aging lectures".

Giving a paper to 40 philosophers Professor Hare replied: "An academic community of any sort will prosper and do good work to the extent its members feel they belong."

He drew a parallel with workers in Japanese factories who enjoy tenure. They identify with the company in the same way that academics identify with their departments and colleges if they are happy ones, he said.

"We have some very good philosophy departments in this country and I do not think that the Americans do better by sacking the young without mercy and chasing each other's senior professors with offers of vast salaries once they have become great names," Professor Hare said, adding he had turned down one such offer because he preferred the British system.

Mr Edgar Page, a lecturer from Hull University, offering a different view asked why should academics have tenure as opposed to steel-workers. "Tenure is not just about academic freedom and standards. It is about the protection of jobs, and is meant to protect academic freedom and standards."

Other papers presented at the conference covered the nature of a university, and elitism and higher education. Mr Richard Tur, from Oriel College, Oxford, gave a paper called *The Confessions of a Justified Newmaniac*, outlining the views of Cardinal Newman, the controversial nineteenth century educationist.

Another paper by Mr David Marsland, from Brunel University and the Social Affairs Unit was entitled "Not the most unkindest cut of all – a positive perspective on reduction in the scale of higher education." Another paper was called "What's wrong with elites?"

The Oxford philosopher, Sir Alfred Ayer, was elected president of the society, to be succeeded after three years by Professor Hare. The society plans a bi-annual journal and a series of lectures, hopefully run jointly with the Royal Institute of Philosophy.

It also plans a register of members with their research interests so that academics can keep in touch with researchers in similar areas. This would particularly help qualified postgraduates without jobs and academics taking early retirement.

Sheffield agrees to lose 110 jobs

by Ngaio Crequer

Sheffield university senate has agreed in principle to lose 110 jobs and reduce departments.

A plan, prepared by the academic development committee, foresees no need for compulsory redundancies. It envisages instead early retirement, internal redeployment, transfer to other institutions and sponsored short-term secondment, for example, under the auspices of the British Council.

In particular it proposes merger of the three departments of ancient history and classical archaeology, Greek and Latin. In the past five years recruitment to the single honours school of the former school has been four or fewer students. Greek had no entrants in any of the five years. Latin had 0, 0, 3, 0, 2 respectively.

Another recommendation is that the school of modern languages and linguistics (French Germanic Studies, Hispanic Studies, Russian and Slavonic Studies and Linguistics) should continue to have available expertise in teaching Russian and Italian but on a reduced scale.

The report notes the difficult position the Russian department has been in over the last two years, with the University Grants Committee reaffirming the advice of the Atkinson committee to discontinue Russian.

It proposes therefore to keep the teaching component but cease single honours Russian courses.

The ADC proposes that consideration be given to transferring staff in the department of economics and social history to other departments. It says the department does not concentrate strongly on economic history and does not attract sufficient students.

The report says that is does not support the continuation of the urban studies course in its present form beyond the intake entering in October, 1982. But it would be prepared to change its view if the course is changed, or would consider a new course with local authority support.

Finally, in specific areas, the ADC proposes that the teaching of business studies should be enhanced, mainly through dual degrees with other subjects (particularly with modern languages), and that certain areas be identified for possible growth, including computer science, microbiology and biotechnology.

The report also looks at services and supports the idea of the student health service becoming an NHS general practice. It says that the possibility of charging £5 per student per annum towards the provision of non-NHS facilities should also be examined.

The paper says that £1m in recurrent savings have already been made in 1981-82 in non-staffing areas. If academic and other savings recommended can be achieved, it hopes that the 1983–84 staffing establishment would be regarded as a minima the university would be in a position to sustain.

Comments on the report will be submitted by the end of this month, and then recommendations will be firmed up. Senate and council will then make final decisions in June.

The first rector of Dundee University, Peter Ustinov, was on hand to welcome another famous name from the entertainment world at a conferment of honorary degrees which formed part of the university's centenary celebrations. Soprano Kiri Te Kanawa, who is best known for singing at last year's Royal Wedding, was among seven honorary graduands, becoming a Doctor of Laws.

Mr Geoffrey Caston, secretary-general of the Committee of Vice Chancellors and Principals, was another to be honoured, together with Professor Walter Kamba, a former Dundee student who is now vice chancellor of the University of Zimbabwe. The other graduands were Lord Mackie, Dundee's present rector; the engineer Charles Brown; and Professors James Crooks, of Dundee, and Malcolm Longair, of Edinburgh universities.

Clash may be averted

by David Jobbins

Student leaders at Nottingham were this week hopeful that they had avoided a confrontation with the university authorities over student union finance.

Offers of resignation from president Justin Greenwood and treasurer Mark Surtees were turned down by the governing student union council. This was seen as an endorsement of their action in walking out of a finance committee meeting in a row over the way the union's income is calculated.

Instead of linking union income with the recurrent grant, as the two officials interpreted a decision earlier this year, the university said the grant should be related to total resources including income from non University Grants Committee sources, sources.

Of 60 council members voting, two said the resignation offers should be accepted and two more abstained.

Decisions over the conflict were being made this week. The union wants a working party to examine the university's proposals and agreement to establish the union's share of the university's recurrent grant.

Student leaders had had second thoughts about the extent to which they had cooperated with the university in accepting a £23,000 cut for 1982–83.

Meanwhile University College, Swansea, was also embroiled in a dispute with its student union over the new system of financing. The union faces a deficit of £20,000 for 1981–82 and £21,000 next year.

Society budgets have been frozen while the union takes legal advice. Economies will be needed if it is to avoid using up all its reserves

Union argues for local control

All tertiary education should be run by local education authorities and financed through the rate support grant, according to the Educational Institute of Scotland, the largest Scottish teaching union.

In its response to the report of the Scottish Tertiary Education Council, the union's education committee condemns the council's majority recommendations that advanced and non advanced further education should be separately administered, with all colleges centrally funded, but with advanced colleges also centrally administered while non advanced colleges would be left under regional authority control.

But the union's submission also disagrees with the council's minority recommendations put forward by its own general secretary, Mr John Pollock, and Mr David Semple, Lothian region's director of education, that while all institutions should be run by regional authorities, they should have central funding.

The proposal might appear superficially attractive to hard pressed councils, says the union, but would clearly erode their autonomy. With the present block rate support grant, councils could decide themselves what priority should be given to education, but the new proposals would mean the Scottish Secretary deciding the amount on the advice of the tertiary council.

Education authorities would be reduced to being agents of central government, and this would produce a barrier between secondary and tertiary education, particularly over the funding of link courses. Decisions on the financing of tertiary education should be made at a local level, as with primary and secondary education.

In its criticism of the majority recommendations, the union says they show little awareness of prospective developments in education and training for the 16 to 19 age group, set out in the government White Paper on *A New Training Initiative* and the Manpower Services Commission's examination of training schemes for all young people, whether employed or

Post-school system 'a mess'

The chairman of the Scottish National Party, Mr Gordon Wilson, has called for Scottish Office control over the entire tertiary sector.

At present, post school education was "a mess, with too many bodies having administrative responsibility," said Mr Wilson. This had been particularly apparent when early this year he asked higher education under-secretary, Mr William Waldegrave, some fairly straightforward questions about Council for National Academic Awards degree courses in subjects at Scottish colleges.

A series of parliamentary answers and apology for this had taken three months to come.

"I think all this indicates the need for a coherent post-school system in Scotland and the first step towards that will be to sort out the administrative situation," said Mr Wilson.

"At present we have a combination of remote control from England plus Scottish Office control plus control by regional authorities. The report of the Tertiary Education Council suggested a mere tinkering with the present set-up. There should be radical reconstruction of the administration and full control over all post school

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Manual workers threaten exams

by David Jobbins

Examinations and degree ceremonies in universities are threatened by industrial action by non-teaching staff seeking improved pay offers.

Technicians have launched a campaign of selective strikes and other sanctions equivalent to three hours a week. And manual workers including porters and catering staff are to plan industrial action of their own if the university employers fail to improve an offer of £4.29 a week to all grades when the two sides meet on June 8.

Their leaders have suggested this should be timed to have the maximum impact on examinations and other key events in the university calendar. Demonstrations, a letter campaign to local MPs and even occupations are also recommended.

The technicians have rejected 4 per cent and informed the independent Advisory, Conciliation and Arbitration Service (ACAS) that negotiations are deadlocked.

The technicians' action, planned to last until the dispute is settled, could affect practical examinations and threaten long-term research projects. Manual workers may refuse to put desks in examination halls and distribute papers. They are to ask other campus unions not to undertake work which they have refused to do.

The Association of University Teachers, whose members will bear the brunt of any action by the non-teaching unions and is also making little headway in its own pay negotiations, said this week it would consider any such request when it was received.

The National Union of Students is to seek discussions with the unions involved to minimize the effect on its 250,000 members in the universities.

Significant numbers of students have already finished their examinations, but thousands of others would be hit. NUS president Mr David Aaronovitch commented: "I am certain that before this happens there will be consultations."

He emphasised the growing recognition among students of the plight of university non-teaching staff and support for their case.

Union officials are not confident that the university employers, their backs against a wall built by the Government when it cut spending and imposed a 4 per cent limit on pay, will be able to make any improvement. They are resigned to industrial action, but the resolve of union members to fight for better pay when jobs are at stake has yet to be tested.

Of the three manual workers unions, NUPE has firm authorization from its executive for industrial action. The TGWU is expected to give full backing to its university members, while the General and Municipal Workers' Union, which voted reluctantly to accept the offer but was overruled by the other unions, is also expected to follow suit.

A circular detailing the effect on pay packets of the employers' offer is being sent to branches. After deducting stoppages, the £4.29 is reduced to an extra £1.91 a week for the lower paid and £1.71 for the higher paid, according to the unions.

Cathy Chilton (left) and Liz Newport, design students at the University of Manchester Institute of Science and Technology, relax with a cocktail while waiting for an external examiner to assess their finals project work. They are sitting among Cathy's section of the exhibition of her work. Her theme was "packaging" and one of the results is the deckchair (centre) designed like a giant tube of toothpaste.

Computers could help students to make choices

Two important computer-based projects to help students pick courses when and where they like and to find appropriate careers and to be announced by the Department of Education and Science.

Last week the DES confirmed it was inviting tenders for the design and testing of a credit transfer system which would allow students to switch more easily between work and college and between institutions.

And this week the DES revealed details of a new £15,000 feasibility study into the provision of a common computer-aided careers guidance system for undergraduates.

The study has been given a six-month time limit to emphasize DES concern about the need for efficient and effective careers advice at a time of significant graduate unemployment. Mr Peter Pierce-Price, careers adviser at City University, will head a review of computer systems in Britain, Canada and America, backed by the Association of Graduate Careers Advisory Services.

A spokesman said the DES wanted to develop a powerful back-up system to the careers services given by institutions, now under increasing pressure as student demand went up and resources went down.

Oxford University appointments board for example, in a report published last week, warned there was no doubt their service would be reduced as demand increased (registrations are up 25 per cent in five years) and resources decreased (set to fall by 8 per cent by 1983).

The new credit transfer project is widely interpreted as the final step towards major new reforms in higher education which could eventually allow students in Britain to take up "packages of education" when and where they want.

The project, as revealed in *The THES*, will be tested in the south west and could lead to a full scale national credit transfer system, like that in the United States.

The project, seen as a computerized information service, will be known as the Educational Counselling and Credit Transfer Information System (ECCTIS).

The DES says the system will encourage flexibility in higher education, and provide "missing information" on syllabuses and qualifications for access by students choosing courses, by colleges assessing admissions, and by employers recruiting graduates.

It was first discussed in 1977, when a steering committee said there was a need for such a service. A study by Mr Peter Toyne, now deputy director of West Sussex Institute of Higher Education and head of Bishop Otter College, suggested 18,000 inquiries a year would be lodged with such a service.

Institutions are said to be largely in favour of the service. A survey showed that 328 bodies, out of 433 who replied from more than 600 asked, said they would use it, and 264 said they would pay for it.

ILEA help 1,000 young

by Charlotte Barry

Inner London councillors were expected this week to approve the immediate provision of 1,000 extra places in further education colleges for unemployed young people.

The £800,000 necessary for the package considered by the Inner London Education Authority's further and higher education sub-committee will be largely met from savings in next year's polytechnic and schools budgets.

The five inner London polytechnics will be asked to save a total of £300,000 out of their combined block grant of £60m. The polytechnic directors have asked if they can decide how the reduction is shared out between institutions.

The Polytechnic of Central London will be asked to take its share of the cut only if the authority decides to approve its block grant for 1982-83. Councillors approved level funding for the four other institutions in March, but decided to withhold PCL's grant until it sorted out its financial affairs.

A joint advisory committee set up by ILEA and the polytechnic's court of governors will report back to the authority next month.

A paper laying out the need for urgent developments in further education colleges, and considered by councillors this week, says that the growing number of students has placed strains on governors' allowances as the only increase in these has been for inflation.

Particular problems are occurring in colleges which are now required to provide free materials for students under 19, and those which have made major efforts to provide on-the-job experience for trainees.

Extra accommodation is now needed for extending youth opportunities programmes.

Nato scheme for scientists approved

by Karen Gold

A programme to increase international collaboration between academic scientists and industry has been set up by Nato, and has received provisional support from Britain's scientific establishment.

The Brussels-based director of Nato's non-military science and environmental studies programme, Professor Robert Chabbal, flew into Britain last week for talks with the Science and Engineering Research Council and industrialists about Nato's new "double-jump" programme.

He received qualified support for the scheme, setting up fellowships for academic and industrial scientists to take temporary positions in other countries and unfamiliar academic or industrial surroundings.

For the first time in Nato's civilian science programme, the "double-jump" is to be funded by Nato providing 50 per cent of the fellowship and the other half being provided by governments opting into the scheme to the extent they choose. Britain has agreed to opt in for an experimental period.

The first two fellowships have just begun; a Belgian university scientist and a Belgian industrial researcher have just left for an American industrial laboratory and a university respectively.

There are ten more such applications under consideration, according to Professor Chabbal. That makes the scheme small fry at this stage compared with Nato's other 1982 civilian science innovation: the establishment of a series of 22 Advanced Research Workshops in all branches of science.

These extensions of the specialist summer programmes Nato already runs are planned eventually to absorb 15 per cent of the $18m budget. From that budget are provided almost 50 per cent of all international short-term science training such as fellowship research grants, summer schools and collaborative research programmes, according to Professor Chabbal.

Schemes such as the "double-jump" are designed not only to boost science research of all kinds in Nato countries, but also to attract additional funds to those granted by the organization's civil budge.

To keep up with these developments and meet the 30 per cent increase in advanced study applications this year alone, the Scientific Affairs division needs a 30 per cent increase in income in real terms. The sum they are more likely to receive is 15 per cent, in cash value only.

Divine intervention by UGC

Scotland's divinity faculties could be axed from four to two as a result of the University Grants Committee cuts.

The move has been precipitated by Glasgow University where, over the next two years, four of the six divinity professors will retire and the university has decided to amalgamate three departments into a single department of theology from October, 1983.

There may be further restructuring within Glasgow's divinity faculty. The UGC has approved this and indicated that money would be made available for general restructuring of divinity teaching in Scotland.

But this is not a decision for the universities alone. The divinity faculties of the four ancient universities, Aberdeen, Edinburgh, Glasgow and St Andrews, are the only approved training places for Church of Scotland ministers, and this is reflected by the church being jointly represented with the universities on nomination boards to theological chairs.

The church's main nomination board has proposed accepting restructuring with the proviso that the joint appointments procedure should be maintained for pincipal teaching posts in required training subjects, whether these are chairs or not.

But Glasgow's nomination board has further recommended "that steps now be taken to discuss the merits of a reducation of the number of faculties of divinity in Scotland" by both the universities and their general meeting in Edinburgh this week.

Glasgow is not proposing its own annihilation. The church's education board has said that although the number of courses offered at Glasgow will be reduced, the basic church training requirements will continue to be met.

The two faculties most at risk are at Aberdeen and St Andrews, both because of their geographical position and because of their small number of intending Church of Scotland ministers.

While each faculty has a good number of students, the church could well decide that all four are no longer necessary as training places because of falling numbers of ordinands.

Subsequent restructuring of the faculties could mean theological or religious studies courses becoming arts faculty subjects at Aberdeen and St Andrews.

Peace pioneers forced to fight for funds

The survival of the pioneering Richardson Institute for Conflict and Peace Research, based at Lancaster University, is threatened by the loss of external funds.

A Rowntree charitable trust hit by the recession, has withdrawn financial support for one of the two full-time readers. The work of the remaining member is now very vulnerable, according to the institute.

The undergraduate teaching, despite a large and increasing demand for courses in peace studies, will be severely curtailed. The PhD and MSc programme in addition to being hit by cuts in the Social Science Research Council grants will become less and less viable; the work for the peace movement in terms of day schools, conferences and lectures will similarly decline; and a barely viable institute, lacking even minimal secretarial assistance, will find itself hard pushed to survive," it said.

The institute, which is based at the university's department of politics has four graduate students and more than 80 undergraduates reading peace studies.

The Institute is launching an appeal to ensure its continued success. In particular, it wants to raise funds to employ a younger fellow in peace studies, as well as secretarial and other support. The fellow would concentrate on communicating peace studies information to the public.

It has also approached the SSRC, the Science and Engineering Research Council and the Dutch government for funds.

"There is a greater need than ever for the publications and services of the Institute. Much of the research, such as that on alternative defence policies and on non-violent resistance, is of particular relevance today," the statement said.

Professor Philip Reynolds, vice chancellor at Lancaster said the university had always had a strong commitment to peace studies and this would continue. Although it could not take on additional financial support, it hoped the appeal would succeed.

Sir Alfred Ayer: elected president.

What Japan can teach us about tenure

by Paul Flather

Tenure helps academics in British universities, as it helps workers in Japanese factories, to produce good effective work, Professor Richard Hare, professor of moral philosophy at Oxford University, said last week.

Professor Hare told an inaugural meeting of the Society for Applied Philosophy at Surrey University that philosophers needed "to win the intellectual argument" against the opponents of tenure.

He criticized people, including Sir Peter Swinnerton-Dyer, former vice chancellor of Cambridge University, who argue that tenure produces "dead wood" and removes work incentives.

"Everywhere you go in America you hear the argument if you have tenure you are not kept on your toes. These are bad arguments. We teach and work more effectively than institutions that do not have tenure, and we are more cost-effective," he said.

In a widely reported speech last year, Sir Peter, who is master of St Catharine's College, Cambridge, attacked tenure, saying it produces "aging lecturers repeating aging lectures".

Giving a paper to 40 philosophers Professor Hare replied: "An academic community of any sort will prosper and do good work to the extent its members feel they belong."

He drew a parallel with workers in Japanese factories who enjoy tenure. They identify with the company in the same way that academics identify with their departments and colleges if they are happy ones, he said.

"We have some very good philosophy departments in this country and I do not think that the Americans do better by sacking the young without mercy and chasing each other's senior professors with offers of vast salaries once they have become great names," Professor Hare said, adding he had turned down one such offer because he preferred the British system.

Mr Edgar Page, a lecturer from Hull University, offering a different view asked why should academics have tenure as opposed to steel-workers. "Tenure is not just about academic freedom and standards. It is about the protection of jobs, and is meant to protect academic freedom and standards."

Other papers presented at the conference covered the nature of a university, and elitism and higher education. Mr Richard Tur, from Oriel College, Oxford, gave a paper called *The Confessions of a Justified Newmaniac*, outlining the views of Cardinal Newman, the controversial nineteenth century educationist.

Another paper by Mr David Marsland, from Brunel University and the Social Affairs Unit was entitled "Not the most unkindest cut of all – a positive perspective on reduction in the scale of higher education." Another paper was called "What's wrong with elites?"

The Oxford philosopher, Sir Alfred Ayer, was elected president of the society, to be succeeded after three years by Professor Hare. The society plans a bi-annual journal and a series of lectures, hopefully run jointly with the Royal Institute of Philosophy.

It also plans a register of members with their research interests so that academics can keep in touch with researchers in similar areas. This would particularly help qualified postgraduates without jobs and academics taking early retirement.

Sheffield agrees to lose 110 jobs

by Ngaio Crequer

Sheffield university senate has agreed in principle to lose 110 jobs and reduce departments.

A plan, prepared by the academic development committee, foresees no need for compulsory redundancies. It envisages instead early retirement, internal redeployment, transfer to other institutions and sponsored short-term secondment, for example, under the auspices of the British Council.

In particular it proposes merger of the three departments of ancient history and classical archaeology, Greek and Latin. In the past five years recruitment to the single honours school of the former school has been four or fewer students. Greek had no entrants in any of the five years. Latin had 0, 0, 3, 0, 2 respectively.

Another recommendation is that the school of modern languages and linguistics (French Germanic Studies, Hispanic Studies, Russian and Slavonic Studies and Linguistics) should continue to have available expertise in teaching Russian and Italian but on a reduced scale.

The report notes the difficult position the Russian department has been in over the last two years, with the University Grants Committee reaffirming the advice of the Atkinson committee to discontinue Russian.

It proposes therefore to keep the teaching component but cease single honours Russian courses.

The ADC proposes that consideration be given to transferring staff in the department of economics and social history to other departments. It says the department does not concentrate strongly on economic history and does not attract sufficient students.

The report says that is does not support the continuation of the urban studies course in its present form beyond the intake entering in October, 1982. But it would be prepared to change its view if the course is changed, or would consider a new course with local authority support.

Finally, in specific areas, the ADC proposes that the teaching of business studies should be enhanced, mainly through dual degrees with other subjects (particularly with modern languages), and that certain areas be identified for possible growth, including computer science, microbiology and biotechnology.

The report also looks at services and supports the idea of the student health service becoming an NHS general practice. It says that the possibility of charging £5 per student per annum towards the provision of non-NHS facilities should also be examined.

The paper says that £1m in recurrent savings have already been made in 1981-82 in non-staffing areas. If academic and other savings recommended can be achieved, it hopes that the 1983-84 staffing establishment would be regarded as a minima the university would be in a position to sustain.

Comments on the report will be submitted by the end of this month, and then recommendations will be firmed up. Senate and council will then make final decisions in June.

The first rector of Dundee University, Peter Ustinov, was on hand to welcome another famous name from the entertainment world at a conferment of honorary degrees which formed part of the university's centenary celebrations. Soprano Kiri Te Kanawa, who is best known for singing at last year's Royal Wedding, was among seven honorary graduands, becoming a Doctor of Laws.

Mr Geoffrey Caston, secretary-general of the Committee of Vice Chancellors and Principals, was another to be honoured, together with Professor Walter Kamba, a former Dundee student who is now vice chancellor of the University of Zimbabwe. The other graduands were Lord Mackie, Dundee's present rector; the engineer Charles Brown; and Professors James Crooks, of Dundee, and Malcolm Longair, of Edinburgh universities.

Clash may be averted

by David Jobbins

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Post-school system 'a mess'

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At present, post school education was "a mess, with too many bodies having administrative responsibility," said Mr Wilson. This had been particularly apparent when early this year he asked higher education undersecretary, Mr William Waldegrave, some "fairly straightforward questions" about a Council for National Academic Awards degree courses in subjects at Scottish colleges.

A series of parliamentary answers from Mr Waldegrave had been "completely wrong", and his explanation and apology for this had taken three months to come.

"I think all this indicates the need for a coherent post-school system in Scotland and the first step towards that will be to sort out the administrative situation," said Mr Wilson.

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North American news

Biding their time

Jack L. Kennedy reports on Nebraska in the last of our series on regional responses to cuts

When Nebraska governor Charles Thone called the state's legislature into an extraordinary special session weeks before term was to begin last January the message for higher education was clear. There wasn't enough money to go around.

By the end of the session, the University of Nebraska, the four institutions in the state college system, the vocational technical college network and others had to make 3 per cent cuts for the academic year already underway.

But that session turned out to be a preface for worse news. As the legislative term began, state officials wrestled with their earlier projections; balancing them against the state of the economy and a prevailing mood of distress in Washington and the capital in Lincoln.

When the "bottom line" became clearer, it was a shock. The state was going to be at least $50m short of financial needs, discounting any new demands. The state's farm economy is relatively stable. But small business failures were mounting, and the unemployment rate, although below the national average, was rising.

The projected cuts in their 1982/83 requests, on top of those from the special session, hit all state agencies. out-of-state travel was banned for a time. State agencies, including the university which had hoped for a salary increase of 10 per cent to keep up with inflation and with the competition for faculty, were told they might get a 5 per cent pay increase.

The legislature did not pass a single major construction funds request from the university. The NU board of regents had not asked for funds for new academic programmes, but said it needed money for overcrowded engineering, business and liberal arts classes.

But even the most ardent lobbyists realized this was not a year for new programmes, salary or tax rises.

The NU regents, meeting on the last day of the legislative session on April 16, admitted the picture was not bright. They were proved correct when the 5 per cent staff salary increases the legislature had promised earlier were put off until January 1.

The state college system faces similar problems. Its board of trustees reluctantly raised tuition by 10 per cent earlier this year. State college students pay about 20 per cent of their expenses, university students about 25 per cent.

The state is divided into six areas of two-year community colleges. The 15-county south east community college system raised its tuition to the highest level of any. More increases may drive away a large portion of the older, low-income students his college normally serves, said southeast President Robert Eicher.

The NU regents and university president Ronald Roskens were hurt, but not surprised, by the fiscal picture und the response from the governor and the legislature.

Mr Roskens said, "I cannot argue that we must have salary increases at all costs. The university has been a loyal partner of the state in good times and bad. This means we will share in the benefits when conditions improve. and must absorb our share of woes these days."

The board of regents, sensing that there may be more blows to come, altered its budget preparation for the coming academic year.

By the autumn Mr Roskens said, perhaps he and the board could tell more about the state's fiscal picture. Until then, the faculty in the three-campus university system with more than 40,000 students will not know how much money they will get.

Colleges start to get tough

by Deborah Kasouf
WASHINGTON

American colleges and universities suspended 40 per cent more students in 1980/81 than in the previous year, says a report from University of Maryland. The increase is partly due to changing attitudes toward disciplinary procedures.

"There is a clear sense . . . that tougher sanctions are being used that institutions are cracking down more," said Mr Scott Rickard, vice chancellor of student affairs at the University of Maryland's Baltimore County campus and director of the study.

The study, which is based on a survey of 151 public and private colleges, says suspensions increased from an average 5.5 per campus in 1979/80 to 7.8 per campus in 1980/81. The majority of suspensions involved academic dishonesty or physical assault.

In addition to toughening the enforcement of campus regulations, most colleges said they are trying to simplify discipline procedures which many see as ". . . over legalistic, cumbersome and too technical".

"There seems to be a feeling that there is too much legalism," said Mr Rickard.

"There has perhaps been an overextension of procedural safeguards and many institutions are now reviewing their procedures to make them less cumbersome," he said.

The survey also indicated that students prefer disciplinary actions to be handled by administrators rather than by a formal judical hearing before a court of their peers. Fifty per cent of the schools allowed students a choice between the two procedures and in 70 per cent of cases, students opted for an administrative review.

"There is a shift from the 'protest' years of the 1960s and early 1970s with the demands for student rights. The pendulum appears to be swinging back," said Mr Rickard.

"They still want to protect due process, but they don't want the procedure analogous to a criminal court."

Of the schools surveyed, only 12 per cent had judicial affairs officers. Most of the institutions had judicial duties handled by other administrators, most often by an assistant dean, a residential life officer or a dean of students.

Students are allowed legal counsel at all hearings, regardless of the offence in 58 per cent of the schools, while 23 per cent of the schools do not allow students legal counsel under any circumstances.

PhD report calls for changes

from Sally Reed
CHICAGO

If PhD programmes are to survive universities must reorganize graduate education to reflect demographic and social technology change, a study by Chicago University says.

The 113-page *Report of the Commission on Graduate Education* recommends cutting the time it takes to complete a PhD; reorganizing the degree requirements; linking the PhD to professional programmes in law, medicine and business; integrating computer science into all disciplines; preparing students for non-academic careers as well as those in teaching research.

The commission called for "a broader conception of graduate education that would combine the preparation of academic teachers and researchers with the education of those who find intellectual challenge and satisfying fulfilment of their abilities and skills in non-academic fields of endeavor."

"This does not imply watering down the PhD by making it more a vocational or professional qualification," it said. "It implies making the PhD less exclusively a vocational degree for academic teachers and researchers, and more explicitly a training in the analytical methods of different disciplines of a kind that is relevant to either an academic or a non-academic career."

The 19-member panel of internationally known scholars and Nobel prize winners, said it was making 35 separate recommendations for overhauling PhD programmes in the physical sciences, humanities, biological sciences and social sciences because the decline in graduate enrol-

Chicago: hard hit

ments, financial aid and marketability of the PhD had created crisis in higher education with national and international implications.

The commission noted that after two decades of expansion, graduate enrolments had declined 35 per cent and were expected to decline another 25 per cent in the next two decades. Fellowship and training funds have decreased 52 per cent and support of scholarships has failed to keep pace with inflation. The proportion of PhDs in the humanities who enter academic institutions has declined from 93 per cent in 1970 to 69 per cent in 1980 while there has been increase of PhDs entering business and industry and government.

This particularly affects "first-rate" graduate schools such as the University of Chicago, a private research-based institution, where 5,000 of the 7,770 students are in graduate study.

"The national decline in numbers of PhD students, the uncertainties and constrictions of the academic marketplace, the anticipated impact of demographic change have created a sense of crisis for universities like ours," said Hanna H. Gray, president of the university.

As a result, the commission recommended that students be made aware of multiple career options at the beginning of their studies through increased counselling and internships and that PhD programmes broaden their links to create studies combining, for example biological research and medical training; law and the humanities; international finance and European studies; science and social policy.

At a time of declining emphasis on foreign language instruction. the commission proposed a language institute to provide support for faculty and students and renew that emphasis for the urgent need of foreign language instruction in the schools.

In order to improve research and writing in the humanities and social sciences it suggested a research institute that would put less emphasis on course work and more on improving research skills through small group work, seminars and workshops on interdisciplinary topics.

Because of the impact of computers on the conduct and subjects of research the commission advised greater development of computer science in all subjects of study either through a separate department of computer science or by hiring specialists for each department.

In its two-year study the commission noted that the quality of graduate education was frequently affected by factors that are not taken seriously but which ultimately affect recruitment and the hiring of faculty. It discovered, for example, that students found faculty aloof and that they lacked guidance and support for research and job searches.

The commission recommended that students receive more support financially and academically and that faculty create new degree programmes, combine bachelors and doctoral studies, provide more research assistance and library space, and increase their networking with alumni and university departments to aid in job searches.

Law Review ready to choose

The effect of changes in how the *Harvard Law Review* chooses it publishing board will soon be clear.

Plans to increase the board's minority membership caused months of bickering among lecturers, alumni and the review's student editors. After two heated skirmishes between the graduate school's 73 professors, nearly 50 students editors, and a divided alumni, a committee of lecturers urged its colleagues not to take a stand on the "race conscious" selection plan students had approved.

But the affirmative action plan, will bear its first fruit this summer when the first round of new editors is admitted. According to Peter Enrich, a student editor, first-year students who earn top grades will automatically have their names sent to the review from the registrar's office for membership. In September, second-year students who seek to join the staff will enter a vigorous writing contest.

In both instances explained Mr Enrich, candidates will be allowed to submit a statement, not to exceed 50 words, addressing an "economic, societal or education obstacle they have overcome". A membership committee will take into consideration candidates "from historically underrepresented groups," such as blacks or Hispanics, whose grades at least approach those who would automatically be admitted.

"Minority membership on the law review," said Mr Enrich, "has been, an average, one, or less, per year."

All new editorial board members will be announced in October, he said, and there "will be no way of knowing who got on because of affirmative action."

The policy, approved by the present board of editors by a 42-39 vote last autumn, is vague about the number of minorities that should be admitted, refraining entirely from the suggestion of a quota, he said.

"This plan does not include women," said Mr Enrich, who explained that the percentage of women on the editorial board has, in recent years, been well balanced to their numbers on campus. He said that women comprise 30 per cent of the law school students and 15 per cent of the law review staff.

"The *Law Review* is technically an autonomous entity," said Mr Enrich. "While it has been desirable that the faculty approve an affirmative action plan, it has always been clear they couldn't do anything about it."

Early last year the teachers voted down a proposal endorsing the *Law Review's* plan to favour blacks, Hispanics and women, but agreed in principle with "the goals of the editors to achieve greater heterogeneity in student membership." It appeared, however, that student editors were going to proceed with the plan, despite sharp criticism and the professors asked that editors delay implementing the policy for a year.

Mail from alumni on the issue has been unfavourable. However, some 20 who attended a discussion of the new plan with editors appeared evenly split.

In remains to be seen how workable the new system will be, but in the meantime, students in other parts of the law school are urging the university to adopt stronger affirmative action measures.

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Overseas news

Fears for Turkish expansion

from Bernard Kennedy
ANKARA

The Turkish Council of Ministers is discussing a proposal to raise the number of university entrants by 51,000 this year – a huge figure compared to the total intake of 69,000 in 1981.

The proposal comes from the Higher Education Council, set up last November. Since its controversial inception the council has made a number of dramatic announcements, including plans to establish five new universities.

Giving details of the plan, Professor Ihsan Dogramaci, council chairman and a powerful figure on the Turkish university scene, said the council wanted to ensure that, within three or four years all secondary school graduates would have the opportunity to continue their education.

It is a tall order. With a high drop-out rate and extra teaching hours and evening classes, it may be possible to accommodate the extra students in the coming year. But many lecturers, already disenchanted with the council, are sure to complain about the additional workload. Any attempt to raise the numbers in higher education between three and fourfold by 1985, which is what Professor Dogramaci is talking about, appears unrealistic, unless standards drop.

The timing of the proposals is also curious. Only two weeks before they were made public, over 400,000 Turks took part in round one of the annual university entrance examinations. About 40 per cent were expected to be selected to compete in round two in late June for the 70,000 places which it was believed would be available.

Professor Altan Gunalp and his colleagues at the University Selection and Placement Centre, the body subject to the council and responsible for entrance procedure, have been placed in a difficult position.

Whether the new proposals will be legislated in time for the opening of the coming academic year is an open question; but they have certainly shaken Turkish academic circles, while providing a ray of hope for some of those students who fear they have failed the entrance exam.

Minister keeps watchful eye on Polish protesters

Dr Benon Mickiewicz, Poland's minister of science, higher education and technology, is anxiously watching the continuous unrest in the universities.

The new Higher Education Law forbids students to take part in protests. However, on the day parliament debated the bill students from colleges in Warsaw were arrested for taking part in a protest rally.

Students from Warsaw University, the polytechnic, agricultural college, physical training college, the School of Fine. Arts and the Catholic Theological Academy took part. Students were also prominent in protests in Olivice, Szczecin and Gdansk, and in last week's rallies, throughout Poland, to mark five months of martial law.

The official line taken by the official Polish media is that the students are being manipulated by foreign radio stations, which allegedly incite disturbances on behalf of Western interests which wish to see Poland slide even further into the economic morass.

Not only Radio Free Europe and the Voice of America, the traditional targets of eastern bloc propoganda, are attacked but Radio Stockholm, Radio France International, and the BBC Polish Service, whose director Krzysztof Pszenicki, was recently made the subject of a special attack in the army daily *Zolnierz Wolnosci*.

Western-style pop music stressing young people's frustration at being unable to "be themselves" is the latest target. Of recent years, Poland has had a very liberal attitude to pop, staging the annual Intersonic Festival in Poznan and manufacturing disco equipment. Discos, however, were specifically mentioned among the establishments frequented by students which were to be closed after the May 3 clashes.

How to deal with the persisting student discontent is clearly puzzling the authorities. Already there have been protests from the communist party-linked Union of Polish Socialist Students, which in 1980–81 lost almost all its members, that not all students should be blamed.

There have been urgent meetings of university party organizations. summary punishment including the loss of student rights, suspension and expulsion for those convicted of participating in demonstrations.

The Polish Primate, Archbishop Jozef Glemp, addressing the annual student pilgrimage to Czestochowa, urged young people to protect themselves from manipulation and maintain reason in the face of present tensions.

"It is a horrid crime", he said, "to exploit the noble patriotism of young people, especially for purposes which are not patriotic".

Archbishop Glemp: worried.

Fight to save top council

from Lindsay Wright
WELLINGTON

A branch of the Workers Education Association is launching a national petition to save New Zealand's adult education council.

The National Council of Adult Education established in 1947 to disburse regional grants and later reconstituted to play a leading role in continuing education is expected to be disbanded this year.

The council has been the key national body in developing public awareness of the need for life-long education. It has co-ordinated the views and serviced the needs of diverse agencies, and promoted literacy programmes training community work leaders and Maori language classes.

First rumours of the possible closure came in mid-April, and by the end of April the minister of education had told council representatives that he intended to seek cabinet approval the abolition.

Council director, Mr Peter Creevy, says he has received dozens of calls and letters from people and public support has come from groups such as the Playcentre Federation and secondary school community class co-ordinators.

Council chairman Mrs Beverley Morris, a senior lecturer in Victoria University's centre for continuing education, has been attempting to persuade the minister of education of the value of the work undertaken by the council's 12 staff members.

A leaked confidential State Services Commission report on the council said its role in advising the universities on their adult education work had diminished. But it recommended reorganizing the council rather than abolition.

Soldiers carry coffins for state burial in desert.

Archaeologists rattled in old bones row

from Benny Morris
JERUSALEM

Israel's archeologists last week boycotted the state funeral for the remains of 25 skeletons believed to be of Jewish rebels who died in Shimon Bar-Kochba's revolt against Rome in AD 132–35.

The ceremony, stage-managed by the army with full military pomp, was attended by the country's lay and religious leaders, including President Yitzhak Navon, Defence Minister Ariel Sharon, Foreign Minister Yitzhak Shamir, the two chief rabbis, Israel defence forces chief of staff, Lieutenant-General Rag Rafael *Eitan*, and a cluster of other dignitaries. Prime Minister Menachem Begin delivered the eulogy, in which he described the dead as "our glorious forefathers."

Nineteen of the skeletal remains were discovered by Professor Yigael Yadin, the country's most famous archaeologist and a former defence force chief of staff and deputy prime minister, in his expedition in the caves of the northern cliff-face of Nahal Hever, near the dead sea in 1960. The six others were found by the late Professor Yohanan Aharoni the same year in the Cave of Horror on the southern cliff face of Nahal Hever. The ceremony took place on the plateau above the Nahal Hever Gorge.

Professor Yadin and his colleagues boycotted the ceremony because of its alleged "wastefulness". Bulldozing the necessary paths through the Judean desert and ferrying the dignitaries to and fro by helicopter cost an alleged $250,000. Experts have also cast doubt on whether the remains are genuine.

The ceremony was initiated by Chief Rabbi Shlomo Goren, who last summer earned the enmity of the archaeological community by leading the orthodox campaign to halt the archaeological excavation of the City of David in Jerusalem.

The solemn occasion took on a touch of farce with the unexpected appearance of a group of 30 lively young Israelis, who described themselves as "lovers of the land and of hiking", who had come to protest against the ceremony wearing white loin-cloths and sheets in the "Bar-Kochba style" and brandishing wooden bows and arrows and staves.

The demonstrators called their gathering "a parody of a parody". They sang mocking ditties about the funeral and against "the forces of darkness".

An amendment to the 1978 Antiquities Law, which threatens the future of archeology, is to come before the Knesset. The Hebrew University senate has condemned the amendment which will give chief rabbis greater control and veto-power over excavations in which human remains are discovered.

Rebels attract campus allies

from Craig Charney
JOHANNESBURG

The break-away of the Conservative Party for South Africa's ruling Afrikaner National Party is causing political convulsions on Afrikaans-medium campuses.

Students in the Transvaal province are feeling the pull of Dr A. P. Treurnicht's Transvaal-based rebels, while in the Cape Province, Stellenbosch University has remained loyal to Cape-born Prime Minister P. W. Botha.

Polarization on the campuses reflects the growing chasm in Afrikaans society between apartheid hardliners, supporters of Mr Botha's modest reforms, and the beleaguered but growing band of Afrikaner liberals.

Pretoria University, the largest Afrikaans campus, swung rapidly towards the Conservatives. Within a week of the party's founding in April, branches had been established at most residences, and the local representative of the Afrikaans Student Bond (ASB) had declared his support.

Students at Afrikaans teacher training colleges in Pretoria and Johannesburg are also reported to favour Dr Treurnicht's men.

At Johannesburg's Rand Afrikaans University, no Conservative Party branches have yet been formed, but Dr Treurnicht drew 500 students to the year's largest political meeting on May 12. Potchefstroom University also has a significant right wing, according to students.

The University of Port Elizabeth saw a student's representatives council which supported the liberal opposition party, the Progressives, ousted by right-wingers in March.

Only at Stellenbosch, intellectual powerhouse of the Cape Afrikaans business and intellectual establishment, have threats to the National Party remained insignificant.

Observers agree that the Conservatives have not made major inroads into the 66 per cent Nationalist vote, a survey found last year. Stellenbosch students were in the vanguard of liberalization among Afrikaans students, it found, with 55 per cent of students supporting policies to the left of the Party. (Far right sentiments were also rising slightly, it found.)

A fierce battle is expected between national and Conservative party supporters at the July conference of the ASB, as both factions strive to take control of the influential student organization.

Self-help birth control study

by Thomas Land

University biologists investigating mankind's oldest and simplest birth control methods have launched a scientific study in Mexico, asking nursing mothers to record and report the frequency of feeding their babies.

The study by specialists from the University of Edinburgh is based on the assumption that the global birth rate could be halved if nursing mothers applied what little knowledge now exists on the contraceptive mechanism involved in breast feeding.

Another programme, ultimately intended to teach women how to identify the fertile and infertile phases in the menstrual cycle by observing the changes in the body which occur around the time of ovulation, is advancing in Canada, Colombia, Kenya, the Republic of Korea, the Philippines and the United Kingdom.

The Edinburgh scientists advise mothers to breast-feed on demand, to sleep with the baby, to ignore bottles and comforters and, after the child reaches about six months of age, to put it on the breast before giving it supplementary food.

A timely new study published by the Johns Hopkins University in Baltimore concludes that contraception through breast feeding is on the increase among urban women in countries like Canada, the United Kingdom, the United States and Sweden. The study also emphasizes that this form of birth control appears to be the most effective in traditional rural societies.

The Mexican study centred in a Catholic community is to establish the most advisable frequency of breast feeding. The project to teach women about the different phases of the menstrual cycle is run by the United Nations' Special Programme of Research on Human Reproduction. A specialist spokesman for the programme explains: "One method is based on observation by the woman of a sequence of changes in the quality and quantity of cervical mucus, the fluid produced by the cervix which appears as a normal vaginal discharge.

"The mucus changes from a thick, sticky, opaque fluid to a thin and watery, stretchy clear fluid around the time of the ovulation. Women can be taught how to identify the infertile and fertile days of the menstrual cycle by paying attention to the sensation produced by the mucus and its appearance."

A nuclear build-up

from D. B. Udalagama
COLOMBO

A two-year postgraduate course leading to the masters degree in nuclear science has started at the University of Colombo with nine students.

According to Dr Granville Dharmawardena, chairman of the Atomic Energy Agency and head of the radioisotope centre of the university, who expects to give over a third of the lectures, Sri Lanka needs well trained, self-confident, nuclear scientists, whether or not the country goes nuclear for her energy needs.

In any case, there are other fields such as agriculture, medicine and industry where nuclear scientists will help to "accelerate acceleration of development", he says.

There were fears that if graduates were sent abroad for training they would be "alienated" from Sri Lanka, become frustrated by its lack of sophisticated equipment, and choose to work abroad.

It was hoped that a home-grown course would acquaint the scientists with the problems of the country so that, even if they should be sent abroad for further training, they would tend to work on projects of relevance to Sri Lanka.

£*x* plus *y* per cent = a fair deal

David Jobbins looks at the provisional pay settlement for college and polytechnic lecturers

At last virtue is no longer being regarded as its own reward – at least as far as further education college lecturers' pay is concerned.

The idea that lecturers teaching at a non-advanced level and tied by the Burnham machinery to the lowest salary scales are entitled to a proportionately bigger pay increase than senior colleagues and polytechnic staff has been recognized in the provisional salary deal expected to be ratified by the main union on Monday.

The package is a scaled-down version of the claim submitted by the teachers' panel and constructed around a framework laid down by last year's conference of the National Association of Teachers in Further and Higher Education.

Then, a compromise emerged from a battle between the extreme left, who favoured a flat rate claim, and those who warned that anything other than a percentage claim would drive Natfhe members to join the rival Association of Polytechnic Teachers.

Conference saw the justice of the one case and the practical politics of the other and said that the 1982 claim should combine both in a £*x* plus *y* per cent formula. The wisdom of a flat rate was subsequently questioned following the TUC's public sector pay initiative later in the year. Many who were attracted to the formula immediately saw the difficulties of framing a claim which embodied both the letter of the conference decision and the spirit of the TUC's model claim across the whole public sector.

In the event the union lodged a claim for 12 per cent and £250 across the board. Although their critics originally dismissed the £250 as a mere gesture, union leaders have been conspicuously successful in emerging with a package which boosts the salaries of further education staff engaged in difficult, demanding but status-lacking work without irretrievably damaging relativities with the universities.

Although the flat rate part of the provisional settlement has been whittled down to £69, its effect has weighted the deal in favour of staff on the lower salary scales.

For many in the colleges, the lecturer 1 scale is not only a starting point but a career grade. The enforced correlation between the level of work and the salary scale means that those remaining in the further education colleges whether through choice or lack of opportunity can never progress beyond the top point on the L1 scale. Natfhe estimates that about 14,000 of its members are stuck there with no prospect other than the annual salary increase.

The deal gives them an extra £108 in compensation for their restricted career opportunities and makes their increase worth 7 per cent.

The £69 to everyone else gives about 6 per cent to most lecturers on the L1 and L2 scales, and approximately 5.5 per cent to the higher paid. Only on salaries over £20,000 does its value fall to 5.3 per cent.

Natfhe general secretary Mr Peter Dawson acknowledges that relativities established with outside groups – especially the university lecturers are once again not being restored.

This was a point immediately seized on by Dr Tony Pointon, national secretary of the APT. He believes arbitration may have helped to close the gap with the universities – a view Natfhe leaders discount.

But the facts at the negotiators' disposal when they agreed to recommend acceptance indicated that the university sector was set to do relatively badly this year because of the pressure on budgets and question marks over university lecturers' readiness to consider industrial action when jobs are at risk.

Union sources suggest that only a few months ago university lecturers might have been prepared to consider a deal trading off salary increases to save jobs. Now, however, attitudes have hardened but it still seems likely that the universities will settle for the best negotiated settlement they can get from the vice chancellors and then from the Government.

Because a flat rate element is unlikely for university academics, the gap at the bottom end of the career ladder will in fact narrow. Below the average salary, many polytechnic staff will find they will be earning fractionally more than their university opposite numbers.

The accepted reference point for comparisons is the top of the lecturer grade for the universities and the senior lecturer scale for the public sector.

Last year this was £12,860 for the universities and £12,141 for the polytechnics. To keep this relativity university academics must secure at least 5.6 per cent against the vice chancellors' determination not to offer more than 4 per cent in the face not only of the cash limit for the public sector but the other severe restraints on university income.

While the 5.8 per cent provisional settlement for the public sector is not likely to add to the strains on local government budgets (many had already assumed an outcome of this order) one of the same size would be bound to create severe problems for university finances.

Were the vice chancellors successful, lecturers at the top of the university scale would see their salaries rise to £13,374, reducing the ratio of university to polytechnic pay fall from 1.06:1 to 1.04:1.

But it is at the lower end of the lecturer scale that the effect of a successful rearguard action by the vice chancellors would be most apparent.

Currently the lowest normally used salary point is £6,475, while in the public sector the lowest point of the senior lecturer scale is due to rise from £6,462 to £6,854, an increase of

Mr Dawson (above): 'relativities restored'. Dr Pointon (below): 'arbitration helped'.

6.1 per cent. To keep pace, the university academic's pay must rise to £6,863. But if the eventual settlement is only 4 per cent, it will turn out at only £6,734, reversing the traditional inferiority of public sector salaries.

Whether this is either significant or justifiable is debatable. But it is a consideration weighing heavily with union negotiators as they embark on what may be the toughest round yet of university pay talks. Already union officials are wondering if university academics are about to be afflicted with a new anomaly – this time one which may have even more lasting effects than its famous predecessor.

The disparity is not necessarily lasting, as the APT is quick to point out. The career grade for university lecturers rises to a maximum of £15,408, compared with £14,240 in the public sector, and set to rise to £15,019 if the agreement is ratified. The professorial average in the universities is about £18,500, while its polytechnic equivalent is between £15,045 and £16,590 – or provisionally £15,866 to £17,488 even with the latest deal.

A worse picture emerges when the number of senior posts is considered – 40 per cent of university academics are on senior posts while principal lecturers and above make up only 24 per cent of the polytechnic teaching force. While professors form 12 per cent of university staffs, only 4 per cent of polytechnic lecturers are grade six heads of department or higher.

It will redouble their efforts to prise the university employers away from the 4 per cent cash limit, something only one group of workers has yet succeeded in doing.

The manual workers are regarded by the vice chancellors apparently as a special case. It is suggested because many are on wages at or only just above supplementary benefit levels.

But their latest flat rate offer, worth 7 per cent to the lowest and 5 per cent to the highest paid, has been emphatically rejected by union negotiators who have now decided to give the employers another chance to improve it before industrial action looms.

Almost the only dissent among the manual workers' leaders was whether that final chance should be given or whether industrial action should be immediate. Caution prevailed but the unions are expecting a speedy response from the employers if degree ceremonies and other key events in the university calendar are not to be disrupted.

Pressure from the manual workers, added to the anger of clinical academics that they were denied the full rise extended to their National Health Service colleagues and the effect of a 4 per cent busting settlement in the public sector, means that the vice chancellors will be squeezed once more between the trade unions and a government prepared to take a tough line on public spending.

Bluff and counter-bluff in the fight to save Aberdeen jobs

Principal Dr George McNicol was forced to change his stance over compulsory redundancies. Olga Wojtas reports

The first battle against compulsory redundancies has been fought and won at Aberdeen University.

Admittedly, the university court has not rescinded the state of redundancy, merely postponed it until December, but that crucial concession, which has averted protracted legal wrangles and damaging industrial action, resulted not through fear of these but from the realization that the administration had miscalculated, both financially and psychologically.

On the basis of the University Grants Committee July letter, Aberdeen was in the front line. Its recurrent grant was cut by a quarter, with more than half of this falling in the first year. The university's planning committee projected there would be a deficit of £2.6m by this July, and there were warnings that the university actually faced bankruptcy.

Professor George McNicol, who took over as principal at the beginning of last session, has called Aberdeen arguably the worst hit university in the country, since it faces virtually no decrease in student numbers, and bears the considerable expense of a medical school.

The UGC, said the principal, had not taken account of the university being in an area which was isolated and expensive, but he was confident they would appreciate these points.

The reprieve never came. The New Year brought nothing but pessimism. The UGC and the Government had reduced the university's grants without giving them the means of reducing staff, since advice on redundancy payments was conflicting, and confusing. Then came word that the Treasury rules on selling capital assets had been tightened, and this was no longer an alternative means of protection.

In a "worst assumption" document drawn up in the autumn, the planning committee had, in the principal's words, proposed compulsory redundancy as "an inevitable final step in a logical sequence of less distasteful economies". It seems possible that sheer depression within the university precipitated its "inevitability."

In an address to the university staff in March, Professor McNicol said £1m had already been saved by non-pay economies, including a 10 per cent cut in the library, a moratorium on academic travel, and reductions in departmental grants. But as pay amounted to 70 per cent of the university's costs, there had to be substantial staff cuts.

With the increased contribution to the universities' superannuation scheme, and the possibility of having to pay for an over-generous early retirement scheme, the university faced accumulative deficits of £6m within four years, and it was very unlikely that considerable numbers of redundancies could be avoided.

Within a fortnight, the court formally declared a state of redundancy and said that unless alternative savings could be found, 57½ academic posts would have to be axed, with notices going out in July. A document was sent to heads of departments, asking them to select staff for redundancy, marking them out of eight; for academic standing, teaching ability, and administrative skill.

There is little doubt that court members saw this as a precautionary step, and were still pressing for voluntary means of saving. But all the academics on court voted for the state of redundancy, and it would be naïve to suppose they would never have gone ahead with it.

However, the court completely misjudged and underestimated the staff's opposition. Until then, the confrontation had been between the university and the Government. Now it was between the academics and the court, and the focus for attack was the principal.

Professor McNicol seems to have been genuinely surprised. He urged the senate as "a body of reasonable men" to accept the court's decision. Far from complying, the senate rejected the state of redundancy, sought advice on whether it could legally prevent the court implementing redundancies, and came close to calling for the principal's resignation.

Professor McNicol sees his role as providing firm leadership, and it was

Professor McNicol: undoubtedly honest

certainly he who pushed the state of redundancy through court. But even his harshest critics do not question his honesty, and although the move now seems to have been astoundingly precipitate, few would dispute that the principal took what seemed to him to be the only correct decision.

But considerable pressure was put on him to rescind it. The senate could not be dismissed as a bunch of radicals. The local AUT, backed by the national executive, was threatening industrial action, including the withdrawal of external examiners, and withholding final year exam marks.

To an outsider it may have appeared an elaborate game of bluff. The AUT executive must have wished it had been virtually any university but Aberdeen where only professors have tenure, undermining any potential legal struggle.

Many staff had strong reservations about withholding exam marks, and it is possible they might have broken ranks.

Naturally, the union was expected to fight job losses. But in this instance, Aberdeen AUT felt its case against compulsory redundancies was so strong that the threat of militant action was simply backing up the strength of its argument.

The university figures, said the AUT, quite simply did not justify compulsory redundancy. This was not disingenuous. Their view, based on official projections, and endorsed by independent auditors, was that the university was adequately financed until at least the end of next year.

It is unlikely that Professor McNicol would have bowed to pressure alone. But staff admit he is not doctrinaire, but a realist, and prepared to change his mind. Paradoxically, this happened not because of the AUT's optimistic estimates, but because it was discovered an error had been made – next year's projected deficit was worse than assumed, £571,000 rather than £150,000. If an error of that magnitude had gone through committees unnoticed, he felt, the projection could not be seen as credible, and a rational basis for redundancies.

So it was, that at the next court meeting, the principal himself proposed a motion postponing the threat of redundancies until December.

Other factors had also changed. The AUT initially opposed work-sharing because this meant acceptance of the Government cuts, but were now proposing this as an alternative to redundancies, and offered to forego a salary increase.

The union had already done much to encourage early retirement and voluntary severance; indeed, it was discovered a few weeks ago that the university was only 30 posts short of its 160 job loss target, a success which had been obscured in the financial projections because of uncertainty about UGC funding of the schemes.

Most important of all, while the UGC and the Government publicly appeared not to have changed their position over the cuts, the university's problems have been quietly mitigated. Professor McNicol warned the UGC that the "front loaded" cut was sending Aberdeen into next session with a large and inescapable overdraft round its neck.

This was never officially acknowledged, but Aberdeen received two £150,000 grants, earmarked for buildings and health and safety. Then, after the state of redundancy was declared, the UGC completely unexpectedly gave Aberdeen a £1.8m instalment of next year's grant, not due until July, which has greatly minimized the university's problems.

The university's financial projections are now seen as invalid, partly because of changing circumstances, partly because of mistakes within the calculations. New figures are to be presented in June, and until then future deficits are sheer guess work.

Following the battle, a phoney war has emerged. Faculties have within the last 10 days been given the criteria for redundancies to discuss. Already, the arts and law faculties have refused to consider the document.

But it cannot be overstressed that Aberdeen has not yet solved its problems and that the principal has taken a gamble.

"The soft savings will soon be exhausted," said one senior academic. "All Aberdeen has done is make sure it isn't first in the queue for compulsory redundancies, and will avoid the full legal costs."

Where does the future lie?

Wedderburn: principal in favour

Bedford College is still trying to reach a decision about its proposed merger with Royal Holloway College. Ngaio Crequer reports on a recent meeting of the governors

Rook: governor against

When the self-styled first lady of Fleet Street writes about the proposed merger of Bedford and Royal Holloway colleges, it's proof of the passions the issue has raised.

With excellent timing, on the day the Bedford governors met to decide whether or not to approve merger, Ms Jean Rook, governor and former student wrote in the *Daily Express*, "I'm appalled to hear that Britain's oldest establishment for the higher education of women is about to be merged. Or even sunk without trace in Regent's Park lake by which it stands.

"If they can call out the Royal Navy to save 1,800 Falklanders, I can at least blow my bugle for exactly the same number of Bedford students, now fighting not to be scuttled."

The emotional attachment to the college felt by her and other governors who are against the merger ostensibly won the day over the move from Bedford's magnificent site and the loss of identity this might bring.

The governors voted on a charter change to facilitate merger. The present charter refers to teaching in the counties of London and Middlesex, and Royal Holloway is in Egham, Surrey.

The principal, professor Dorothy Wedderburn, spoke for nearly an hour, putting the case firmly for the merger. The two student governors spoke against. There was a peaceful demonstration outside the meeting.

There were petitions representing the two opposing views and a long letter from the classics department arguing in favour of keeping arts on the site.

Eventually the governors voted by 36-23 in favour of the charter change but the vote failed to be effective as a three-quarters majority of those present and voting is necessary for constitutional changes.

The anti-merger camp (or at least, the anti-merger with RHC camp) had won a small victory. But this week emergency meetings of academic board and council, which have both previously firmly endorsed the merger plan, were being held to try to retrieve the situation.

The governors will be reconvened and no doubt some of the hundred and more who failed to attend the first meeting will encounter a little lobbying.

The odds are with those in the pro-merger camp, not least because those against cannot unite around one alternative. Some would prefer Westfield, some would prefer King's, and some can find solutions for their own departments but not the rest.

Moreover they are not only up against colleagues in their own college, and so far, the majority of governors, but also London University itself.

Early on, when the RHC alternative was first opposed, the heavy artillery, in the shape of Professor Randolph Quirk, vice chancellor of London, was brought in to "sell" the idea to the staff.

He is a firm advocate of the merger which fits in with the broad outlines of the academic plan now slowly emerging.

Royal Holloway is to be one of the five prime science sites in London, along with Imperial, King's, Queen Mary college and University College. It has room to expand, there are prospects for a science park and, important to Professor Quirk, it is in a centre of population growth. It has good facilities and equipment.

The merger was in fact approved by the university court at the end of March, though the principals of King's and Westfield were against.

But for staff in the arts faculty, Royal Holloway does not hold out so much promise. At Bedford they enjoy the cultural, literary and social benefits of being in the heart of London. Though they accept that during the peak demand they will still get good students, they are worried that they will not be so attractive to students in later years.

Certainly many outsiders, when they first heard that Bedford and Royal Holloway were considering a merger and that Bedford was contemplating the move from its site, showed a lack of comprehension and bewilderment. RHC is not an unattractive site, but you could not really sever Bedford's.

Royal Holloway, for its part, has tried to woo the Bedford doubters and invited them to an open day to have a good look around.

Arts faculty staff would prefer some kind of merger with Westfield, long seen as the obvious partner. At one time negotiations with RHC and Westfield seemed to be going on at the same time, at least to keep options open.

But Bedford first rebuffed Westfield and when it considered taking the option up again, Westfield made it clear it wanted Bedford to move from its site, and did not want to take on all departments.

Westfield had already made other arrangements for its physics and chemistry and the future of biological sciences was questionable because of the university's academic plan.

Moreover, the clash of personalities between the principals of Westfield and Bedford, made it unlikely that the two colleges could forge a lasting commmunion.

Professor Wedderburn has also made it clear that she is not prepared to let departments like mathematics or Dutch cede to other schools. The unity of Bedford is to be preserved, and this too was one of Professor Quirk's aims.

For some of the non-academic staff the merger is the worst possible news. Both the National Union of Public Employees and the National and Local Government Officers members are overwhelmingly against the move on simple practical grounds.

In many cases they are married men and women with partners also at work and children at school and they could not consider moving house.

Bedford has worse financial problems than many other London colleges, or other universities. It has a huge overdraft with a projected deficit of £1.5m at the end of the year.

Were it to stay where it is, it would face a serious financial problem when its main lease from the Crown runs out at the beginning of the next century. The Crown commissioners are expected to charge commercial rates so the rent review would, by itself, be likely to put the college out of business.

The lease on one of its properties, The Home, a Regency villa, has recently run out and the new rent, still being disputed, will be much more costly. It is a taste of what is to come.

Originally it was accepted that the merger would cost about £10m, £3.5m of which would come from the sale of the Bedford lease, £1.5m from RHC, and the rest from the University Grants Committee.

The Association of University Teachers and other groups cautiously accepted the merger proposal on the grounds that the UGC would provide the necessary extra funds.

But as doubt within the college has increased about the willingness or ability of the UGC to pay up, so has its future role diminished. Now those in favour of the merger are saying that the college sale will bring in more than expected and that anyway it will be possible to do it on less.

Certainly a number of buyers have expressed interest in Bedford, although apparently none has come from London University.

There is also optimism about a recent university court decision to provide extra recurrent funds for departments or units who intend to merge, and a little more for total institutional mergers.

At Bedford, this is being interpreted as an extra £200,000 but the university has not put a figure or percentage on the amount.

The belief again was that the merger would prevent enforced redundancies but this was more an assumption than a positive decision. The self-interest of different groups has characterized the whole debate. One of the first plans was a Bedford go-it-alone scheme which would mean the closure of six departments, including chemistry, classics, physiology, philosophy.

Obviously the people in those departments preferred merger to closure. And those who see the possibility of expansion in turn, favour RHC. Whereas some others can see cosy corners for themselves at King's or UC.

The long cool appraisal of different schemes at the same time, the careful weighing of pros and cons, and consultation seems to have been missing. Instead, it has been rather like a public inquiry for London's third airport, first one scheme proposed, and those against pushing all the other options and then it is the next site's turn.

The reason for the haste, it is argued, is financial. Unless Bedford acts fast there will be no Bedford left, just bankruptcy. It's as well to remember too, that Bedford has moved once before.

Meanwhile, prospective students no doubt look on. The college cannot give them the firm information they want until it knows it.

Leader, back page

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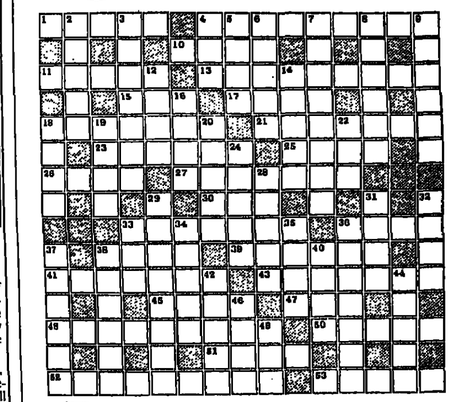

Across
1 Spread unevenly
6 Part of a Milton title
10 A month, nothing more, in Ireland
11 He won't settle down
12 12 down should be this
15 Cotton once, so to speak
17 Head of a chapter
18 Denizen of the ultimate ditch
21 Frequently under observation
23 What's in this stands out
25 Flighty word
26 If the end of this gets in the way the whole may result
27 Relaxes (anag.)

Down
2 Heraldic gold between mother and me
3 Out of countenance
4 Upset this value and get a sharp reproof
5 Intently watched
6 to screw hands the things become trumpets
7 A religious service
8 This horseman has dropped an h
9 Sounds like a curious song
12 This ought to be square
14 Momentary stoppage
16 Written bridge
18 Cleverly's picturesque scholars carved their names on every one
19 Site of 6 across
20 Provides advantage
22 Parents in a negative way
24 Used to be somewhere in France
28 Happen afterwards
29 Climbing instinct in man
31 A terrestrial glider
32 The first crack
33 The little devil's on our money
34 Slimy creature
35 These measurements
36 Jodler (beg.) 4 across
37 Looks in promising mood
38 Presents are commonly this
40 Clean the book
42 Half in Scotland may mean tears
44 Works, but usually plays
46 She's dead
49 Only a contortionist could do this on a chair

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Charlotte Barry talks to the new chairman of the Committee of Directors of Polytechnics

A defector who breaks a mould

Anyone who typecast Dr William Birch as a university professor rather than his real role as director of Bristol Polytechnic would not be too far off the mark.

A pleasant, bookish and distinguished-looking man with a greying beard who dresses habitually in comfortable corduroys, Dr Birch seems at first glance far removed from the nuts and bolts of vocational degrees and professional qualifications, part-time students and short courses.

Indeed, the new chairman of the Committee of Directors of Polytechnics spent the first 25 years of his academic career in universities before "defecting" to the public sector. A former professor and head of geography at Leeds University, he had never worked in a polytechnic before becoming Bristol's director in 1975.

But although he confesses to going through a certain amount of agonizing before accepting the job, Dr Birch has never looked back since. "I came out of university life because I felt there was a need to find a closer connexion with the world of affairs than many university courses seem to offer," he said.

"It was a much easier life – much," he added on reflection. "But I am extremely glad as I have a much more balanced view of the world than I would otherwise. I have found it a chastening experience coming here to realize how important higher education is for people who don't come into it at 18."

Dr Birch has taken over the helm of the CDP at a crucial time for the 30 polytechnics as they attempt to *bring their influence* to bear on the new National Advisory Body for the public sector. Since it was set up at the end of last year the directors have complained bitterly that it is dominated by central and local government representatives, and does not have enough members from the institutions.

They are also concerned about the limited authority of the second tier board which Dr Birch feels is not the "powerhouse" it should be, unable to make the appointments even to its own working parties. Like most of his colleagues, Dr Birch feels the national body should have been confined to the polytechnics and a limited number of higher level colleges, but he remains characteristically cautious about condemning it.

"It is not the national body one would have looked for," he said. "Whether the local education authorities will learn that institutions require more freedom of action and become aware of this through working with institutional representatives on NAB remains to be seen".

Dr Birch is a member of the body's new regional working party which is trying to draw up a structure which can simplify the task of overseeing 400 very diverse institutions. Still in its early stages, it has been deliberating whether to base the structure on an existing framework like the regional advisory councils or invent a totally new one.

One new approach would be to model it on the 12 regional management centres run by the polytechnics which already coordinate management education between higher and further education. "If we can achieve that in the public sector we might be able to achieve that across the binary line," he said.

Dr Birch's reserved manner will herald a new approach to the higher education debate from that of his ebullient predecessor, Dr Ray Rickett of Middlesex Polytechnic. He is a rather private man who spends his spare time sailing, gardening or throwing pots in his artist wife Mary's basement workshop below their house.

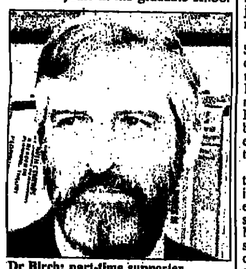
His shyness causes a certain amount of abruptness and formality which sometimes alienates more timid colleagues who find him aloof. His friends say he has a sharp analytical mind that is a real asset to the CDP, but he does not suffer fools gladly. One friend said: "He is not able to take a slipshod statement and let it lie but has got to take it up and pick it to bits. But he has a lively sense of humour and is great fun with people he knows well and likes."

Since becoming a director Dr Birch has had to give up teaching and his extensive research interests, although he was president of the Institute of British Geographers from 1976–77. Instead he has adopted a serious academic interest in higher education policy and gives regular seminars on academic development within the polytechnic.

As a member of the Council for National Academic Awards longer term working party and also its committee for institutions he puts forward strong arguments for giving polytechnics more control over course validation and approval.

"My view is that polytechnics need to be given full responsibility for their own affairs and appropriate status," he said. "Our task is to connect with industry, commerce, the professions and other institutions of higher education, yet the constraints of a whole range of outside bodies make that time longer than it should be and longer than the universities."

Three years in the graduate school



Dr Birch: part-time supporter.

of geography at Clark University, Massachusetts and then four as chairman of geography at Toronto University helped foster some of the attitudes that eventually decided Dr Birch to enter polytechnics. He is a committed protagonist of part-time higher education and also credit transfer, and expects the National Advisory Body to remove the financial constraints preventing their expansion.

Bristol Polytechnic, for example, has 9,000 part-time students – half on short courses and half on part-time degree and sub-degree work. The bone of contention is over the formula for converting part-time students into full-time equivalents which gives Bristol a total of 6,500 full-time students.

"If we used the University Grants Committee weighting we would have over 7,000 full-time equivalent students, so in resource terms we are losing out," Dr Birch said. "This is crazy because we are in the business of providing courses for the region which are bound to be part-time."

This is tied in closely with plans for a credit transfer system which Dr Birch claims have made slow progress in this country. While in North America he got used to high mobility between institutions, transcripts of results being passed around and people picking up extra credits at summer school.

"I am sure the higher education system suffers and the cost is the constraint on part-time work," he said. "No one wants to undermine standards but if standards are defended at the expense of the needs of the country and particularly at the expense of the development of continuing education then that can't be altogether healthy."

The artful dodgers

The Arts Council is still unclear where best to direct its energies, reports Brian Morton

Sir Roy Shaw (above) had lost his voice and the Arts Council, so far as education is concerned, had not yet found its own. Last Saturday's forum on the arts and education, held at the council's Piccadilly headquarters, gave little indication of unanimity on means and ends within the Arts Council or among its clients.

In the secretary-general's opening address, read for by him music director Basil Deane who took the chair, Sir Roy took junior education minister William Waldegrave, to task for his recent suggestion that the arts curriculum represented a "softer option" not containing "the sort of subjects needed to underpin economic recovery".

"Educate people without the arts", Sir Roy replied, "and you will produce blinkered scientists and technocrats who forget what life is for. Economic recovery on the railways might be more likely if Mr Ray Buckton had been made more flexible and imaginative through experience of the study and enjoyment of the arts."

Perhaps, in full voice, Sir Roy's tongue would have been more firmly in cheek than his proxy's; this sounded suspiciously like keeping the masses happy, the elitist idea that a little Mozart or painted gable-ends can solve social problems. "I am not, of course, arguing that education in the arts alone is enough, but I am saying that nothing else is enough without the arts".

Sir Roy then examined two distinct notions of art education. There was a general hostility, he said, usually among highly educated people, to the notion that "appreciation" of the arts had to be taught. Education in that context implies a loss or democratic levelling of that *spontaneous* appreciation which sustains elitist definitions of art.

"I believe, with Marx and Lenin, that the artistic tradition is the legitimate inheritance of the working class." Yet there is a danger, as Sir Roy pointed out, of countering the elitist cornering of "appreciation" with an extreme do-it-yourself view. The community arts movement regard "appreciation" as a dirty word and "participation" as the only honorific.

There was much rather prickly discussion of terms and definitions, each of them foundering on the same divide. The gap between the famous "centres of high excellence" and democratic, community participation is quickly revealed as a geo-political distinction between metropolitan "Art" and the community "arts".

Boiled down further, there remains an implied distinction between aesthetics and anaesthetic pragmatism which puts arts and education in completely different categories. The participants were united on one point, the contribution of the recent Leverhulme-Gulbenkian seminar towards putting the two in more precise relation.

Irene Macdonald, the Arts Council's senior education officer, made a sensible attempt to restrict discussion to the practicalities of the recent consultative document. On the issue of partnership between the arts and education, she isolated four areas. The Arts Council must be considered part of a continuum, she said, in helping the arts to flourish and encouraging participation in them. Only through education, the Arts Council believed (putting is money where its mouth was in 1975 with the formation of the education unit), could the cycle of deprivation be broken. The four areas, which Ms Macdonald mapped out as precisely as her MoD namesake, covered attitudes to arts within the education system, a general awareness of the possibilities of arts teaching and learning, the general situation of artists in the community and, perhaps most important, the need to foster specific skills in both realms.

Hints of a division in attitude within the council emerged in the contrast between Ms Macdonald's precise insistence on practical rather than philosophical questions and her boss's comments. Sir Roy's belief that the experience of art itself is educative is suspiciously vague, suggesting that partnership already, logically exists and needs no further, structured planning.

To say that art is education and education an art is simply to play a kind of word golf, shifting from one abstraction to another in a minimum of strokes.

The linguistic critics were quick to pounce on "partnership". Mr Jonathan Brill, assistant registrar for arts and humanities at the Council for National Academic Awards, dismissed it as a "weasel word". Others were anxious to stress the gap rather than any supposed identity.

Mr Deane: musical chairman.

Mr Julian Hilton of the University of East Anglia stressed the practical problems and possibilities of using the existing (and powerful) local education network as an outlet for the arts. Not surprisingly, doubts were expressed about the range of interest represented at the forum; there was no representative from the Manpower Services Commission and no representative of the under 18 age group.

Mr Bernard Ross, chairperson of the Shelton Trust, wondered why no delegate from the Commission for Racial Equality was present and why there were no representatives from the Black and Asian communities who exist on the frontline where the education system and culture interact most powerfully.

Sir Roy had suggested that the artistic tradition was the rightful possession of the working class. It remained, however, for Mr Rodney Stone, replying to Sir Roy's speech, to point out that there was no one pattern, no one set of rules linking education with the tradition.

As representative of the governmental Office of Arts and Libraries, a subdivision of the Department of Education and Science, Mr Stone's anti-interventionist view was directed specifically toward a defence of the views of William Waldegrave, secretary of state for higher education, and his chief, Sir Keith Joseph. It remains one of the abiding ironies of the right-leftish divide that only *laissez-faire* Conservatives are ready to accept a demystification of "Art" and ready to accept that the arts are not unitary but complex, multifaceted and locally mediated.

One of the Arts Council's most lasting difficulties on the issue of education was underlined by Professor Brian Allison of Leicester Polytechnic in a prepared response to the consultative document. The Arts Council must, he argued (and even allowing for instances of direct provision like the Hayward and Serpentine galleries), be an enabling and not a providing body.

Historically, "the council and its clients have committed virtually all their funds and efforts to providing the arts and have had little thought of educational support for the arts", said Sir Roy.

Most were in agreement "that educational support must back up arts support and subsidy. So, historically, education does now have to be added to the existing role". Regrettably, this reinforced the impression that "education" was something harsh, sour-tasting and anaesthetic, an alien component added to the arts as a kind of reality principle. The implication extended to the membership of the Arts Council, still presumably wary of the pragmatic and goal-directed; "there is still some educational work to do within the council itself".

Discussion all too often became bogged down in special pleading and position-taking. Irene Macdonald's injunction that comment be restricted to practicalities rather than the philosophical definition of "art" or "education" perhaps only served to disguise the fact that several contradictory working definitions of each were being used interchangeably and uncritically. The debate seemed almost problems ripped untimely out of context. Conclusions were few and real communication rare.

One participant, denied a chair, dozed on Lord Goodman's broad bronze shoulder. The Arts Council (*any* arts council constituted like ours) must remain precariously balanced between ossification and undirected energy. Had Goodman been present on Saturday in person rather than in cast metal perhaps things would have been clearer.

Science was more than a hobby for last century's leisured classes, its clean and wholesome image kept women and children from moral danger, argues Guy Kitteringham

A diverting pastime

Ladies studying botany.

In 1823 the *Gentleman's Magazine* felt it to be "highly important to gentlemen . . . who mix in society, that they should have a smattering of many sciences, which are frequently subjects of discussion in conversation".

Today it seems to be believed that all academic disciplines should contain a smattering of science. From historians wrestling with statistics to economists struggling with the non-mathematical behaviour of mankind, scholars attempt to gain for their own subjects the apparently certainty and the prestige of the natural sciences.

It is worthwhile reminding ourselves, therefore, that science is only a human enterprise, the form, content and uses of which embody many of the assumptions of contemporary society. Difficult as it is to appreciate this fully in our own science, it may be clearly illustrated by examining the science of an earlier period, particularly in the less severe form in which it was presented to the general public.

In the early nineteenth century ideas about science became steadily more accessible through the increase production of books and periodicals, and the proliferation of literary and philosophical societies. The 1820s saw the first concerted attempts to teach science to working men via the mechanics' institutes and the Society for the Diffusion of Useful Knowledge, while authors wrote books directed at all sections of the middle classes.

These books usually fulfilled the strict requirements for middle-class leisure activities, which had to be private, cheap, quiet and non-sensual. Reading clearly fitted these conditions, yet it was also important that the subject matter should be suitable. Novels were regarded unfavourably, their stories too liable to excite the feelings and thus endanger the morals of the reader. Works of "fact" were preferred, and science thus fell into the category of moral literature. Of chemistry, for instance, Maria Edgeworth wrote that there was "no danger of its inflaming the imagination, because the mind is intent upon realities".

Neither, at a time of acute political tension, would science infect the reader with dangerous social or political ideas. Politics "are often apt to inflame the passions and pervert the judgment; religion, when it leaves the pure and primitive path, becomes intolerant and dogmatic", wrote William Rhind. In the study of nature, however, "all is simplicity, beauty and harmony".

William Henry agreed: "By withdrawing the mind . . . from pursuits and amusements that excite the imagination", the physical sciences tended "to the improvement of our intellectual and moral habits; to strengthen the faculty of patient and accurate thinking; and to substitute placid trains of feeling for those which are too apt to be awakened by the contending interests of men in society, or the imperfect government of our own passions".

[redacted]

William Bingley believed that the study of natural history could protect children and young adults from moral danger. They would "have recourse to a rational source of amusement, rather than corrupt their hearts and bewilder their imaginations with . . . the common trash of circulating libraries". Natural history would serve as "a substitute for some of the trifling, not to say pernicious, objects that too frequently occupy the leisure of young ladies of fashionable manners and, by employing their faculties rationally, act as an antidote to levity and idleness". Youths would "never be at a loss for expedients for passing their time, not to be driven to seek amusement in the insipidity of the card-table, or the senseless roar of Bacchanalian revels".

Science, however, was to act as a social prophylactic not by merely being innocuous; its study could produce specific moral benefits. Most obviously the consideration of nature would lead to an increased appreciation of God's power. "Every step that you advance in the pursuit of natural science will fill your mind with admiration and gratitude towards its Divine Author", wrote Mrs Marcet in her *Conversations on Natural Philosophy* (1819). In particular, the student would better appreciate the order present in the universe. Astronomy, for instance, showed the words "all in motion, yet calm, regular and harmonious", according to Catherine Whitwell.

The universe clearly reflected the nature of God. As a rational deity he would create nothing in vain. Consequently, the cosmos was believed to be full of inhabitants for whose use the other stars had been created. Plurality of worlds was extended even to comets and stars and William Herschel suggested that the sun might be inhabited under the luminous clouds which covered its surface. Our fellow inhabitants of the universe were generally considered "beings capable of rationality and enjoyment like ourselves".

Science could thus help demonstrate the nature of God through an examination of the natural world. More importantly, however, it helped to show how society should be ordered on earth. It did this by explaining the arrangement of the cosmos using metaphors and analogies derived from current British society. To Robert Woolsey, for instance, the sun was the monarch of the solar system, to Margaret Bryan it was "the father of a family".

James Dede explained the Linnaean botanical classification by suggesting that vegetables be considered analogous to mankind: the class of a plant was equivalent to the nation to which a person belonged, the order of the tribe or division within the nation, the genera to the family, and the species to the individual. As the order of the universe was necessarily divinely ordained such arguments reinforced the reader's belief that the social order was too.

Having imposed an order on the cosmos which existed only in their own minds, these middle-class authors often did not hesitate to draw lessons from the universe for their audience. Mary Sherwood, for instance, claimed that the undeviating behaviour of the planets afforded Christians "a glorious example to pursue". The very possibility of reducing the seemingly disorganized phenomena of the natural world to some form of regularity proved enticing in a time of social disorder, and the effects of Ricardo and other political economists to detect rationality in economic behaviour was analogous to and received support from the successes of natural science.

Thus developed the belief that the essence of an object lay in the features which allowed it to be classified. In 1826 Mary Venning's conversational introduction to conchology included "Father" asking "Lucy" what an operculum was. Lucy replied: "It is of the eleventh class, *Conchifera*, second order, *Univuscitlosa*, the family is *Pectenida*, the genus *Pecten*, and the species *Pecten Maximus*". "Very well answered", responded Father but, like Sissy Jupe, the modern reader feels something has been left out.

The advantages of this aspect of the study of science was summed up by Humphrey Davy, when he wrote that a person "perceiving, in all the phenomena of the universe, the designs of a perfect intelligence . . . will uniformly appear as the friend of tranquility and order". Yet Science could improve the morals in other ways. A student of natural history could derive useful lessons "of industry and economy; virtue and morality; perfection in various arts, and even civil government" from the study of insect behaviour, while quadrupeds showed instances of "sagacity, of faithfulness, or docility, and many other good qualities".

Authors were quick also to point out examples of immorality in the animal kingdom. To Mary Trimmer, for instance, the sow was "stupid, filthy, inactive, and drowsy, to life . . . a round of sleep and gluttony". Small wonder also that sailors were soon to metamorphose the dodo from bird to cliché when it was described variously as a "picture of stupid deformity" and "the ugliest and most disgusting of birds".

[redacted]

It is not obvious how the existence of such animals could be reconciled with the concept of a rational and benevolent Creator, but these qualities were displayed by the great utility of many animals to mankind. Many chapbooks for children were especially interested in the usefulness of both wild and domestic animals, describing it so comprehensively as to leave a slightly gruesome impression. Cows were credited with supplying milk, butter, cream, meat, leather, combs (from their horns) and sugar (from their blood). Sheep bones could be used as knife handles, while their entrails produced violin strings. According to Richardson's *Natural History of Birds and Beasts* the chamois was "justly admired" for its elegant bounding vivacity but also (and one suspects even more) for its ability to render up between ten and 12 pounds of suet.

Thus, reading science suited middle-class children, at least according to their middle-class parents, for it was quiet, private, morally uplifting and non-sensual. Its amusing but also rational character made it especially suitable for girls, at least in its *elementary* form. Mrs Marcet described the limited education felt to be fitted to women:

"Without entering into the minute details of practical chemistry, a woman may obtain such a knowledge of the science as will not only throw an interest on the common occurrences of life, but will enlarge the sphere of her ideas, and render the contemplation of nature a source of delightful instruction,"

she wrote in 1817.

The daughters of the wealthier classes had to learn a few facts on many subjects to enable them to converse politely and rationally when they entered society. As with Maria and Julia Bertram in *Mansfield Park* this might consist, in science, only of the names of "all the metals, semi-metals, planets and distinguished philosophers" but even this was sometimes felt to be too much. Elizabeth, a character in *Morning Walks; or Steps to the Study of Mineralogy*, exclaimed, on discovering the "lead" in pencils not to be lead after all: "How very ignorant I am! And how much I have to learn before I shall be a rational companion for sensible and well-informed people."

Science could prove useful to women in "respectable" society by providing justification for various activities. This could include not only going for country walks with a botanical primer in hand but even writing about the subject oneself. The women who wrote just on natural history included Esther Hewlett, Charlotte Smith, Mary Trimmer, Priscilla Wakefield, Sarah Fitton and Mary Venning, suggesting that any permitted form of intellectual activity proved very attractive to people generally hemmed in by social conventions.

Botany was felt to be particularly suitable to women, no doubt partly because the image of flowers as delicate, beautiful and innocent coincided with the image of women cultivated by this patrimchal society. Middle-class women with greatly increased leisure time, were also glad to find an activity which could be practised by the amateur with a minimum of equipment and which could occupy time indoors, in the making of collections of dried plants, as well as outside.

Those women who wrote on the subject generally had to operate within strict limits. Books would be published anonymously and, particularly in science, the authors often gave credit to men for the ideas in the works. Thus Mrs Marcet's work on vegetable physiology was, she insisted, merely the rearranged lectures of a distinguished professor from Geneva. Margaret Bryan writing on natural philosophy in 1806, offered herself "merely as a reflector of the intrinsic light of superior genius and erudition; to moderate its effects in enquiring minds, not fully prepared to imbibe and sustain its profound mathematical energies".

As this last sentence suggests, much of the writing by women was for children, particularly girls, reflecting the role of women in the wealthier classes, as rational companions to husbands and rudimentary teachers of children. For women readers themselves much of the writing on science was done by men. This was because the main element in popularization for women was seen not to be simplification but censorship. George Gregory's *Economy of Nature* (1804), for instance, was said to contain "not a single expression in the whole that can reasonably offend the most delicate and modest ear".

Botany was appropriate to such popularization, for plants gave "little or no shock to the most irritable sympathies during dissection", but one problem was the use of the sexual organs of plants as the basis of the Linnaean system of classification. The favoured method of overcoming this was simply to omit any reference to the functions of the stamen and pistils. Thus women, like children, were being increasingly forced into the role of innocents, to be protected from all harm by the male of the species.

This paternal attitude was also applied to other groups, including the working class. Indeed anybody who was not a middle or upper class male was treated in a similar way. As the *Quarterly Journal of Education*, a publication of the Society for the Diffusion of Useful Knowledge, said in 1835: "a poor man in civilized life may in a considerable degree be looked on as a savage", and the society appointed itself the educational missionary to the working class.

The author obtained his PhD, in the history of science in 1981 at the University of Kent at Canterbury with a thesis on The Popularisation of Science in England, 1800–1830.

Bill Kirkman argues that a careers adviser's work is now a 'sophisticated marketing' operation

A good career with prospects?

I want to begin with two predictions. The first is that the employment prospects for graduates emerging from universities in 1982 are the worst since the war. The second is that in 1985 the shortage of people with certain essential skills will become acute.

No one will be surprised at the first prediction. The deterioration in the graduate employment market has been well publicized. Last year was bad and no one doubts that 1982 will be worse. Given the high level of unemployment generally the fact that prospects for graduates have worsened is not surprising.

The facts, however, need to be put in perspective. First, it is important to refrain from drawing false conclusions. There is a tendency, followed with glee by those who think higher education is a waste of public money (and who undoubtedly would have opposed the 1870 Education Act on the same grounds), to conclude that because graduates are having more difficulty than before in finding jobs they have nothing to offer to employers. The truth is otherwise. Employers with an instinct for survival show no signs at all of ceasing to need graduates. Present economic circumstances dictate that they require fewer people than before but they are putting substantial efforts into recruiting the right people.

Over the past 25 years, the evidence of consistent demand for graduates is strong. During that period there was an enormous increase in the output from higher education, with about 6 per cent of the 18-year-old population undergoing higher education in the mid 1950s compared with 15 or more per cent now. In absolute numbers the change is from about 18,000 people emerging at first degree level to about 85,000. During the same period demand has obviously fluctuated but in general terms it has at least kept pace with increasing supply. Furthermore, an examination of fluctuations in the detail of demand is even more revealing. There have been periods when recruitment to the public service has been high and to industry low. Particular fields of employment have developed rapidly (notably with computers and electronics). The significant point about these fluctuations is that graduates have shown themselves adaptable to changing demands and have continued to find jobs. Essentially, the same kind of people were emerging when industry took only small numbers as when industrial recruitment increased, but they went off to do different things. The growth of demand by accountants and by banks and insurance companies illustrates the same point of flexibility of response.

It also emphasizes the most important fact about demand now, namely that the need, in most fields of activity, is for people who can appreciate and react to change, who can acquire new skills as they are needed and who can "translate" their abilities into new directions in response to changing circumstances.

The speed of change is great. That is worth stating because it points to the fact that the work of careers advisers in higher education is appreciably different from what it was a quarter of a century ago. Then there were few graduates and few employers (when compared with the present day). People tended to join an employer expecting to stay with him for life. Changes in how things were done were likely to be evolutionary rather than revolutionary. Good careers advisers then, as now, were concerned with helping their clients to make rational choices about their futures but in that process they could attach themselves to far more fixed points.

Now, the task is far more obviously a sophisticated marketing operation. I do not, of course, mean by that a high pressure selling operation. I mean that careers advisers need to keep themselves fully informed about what the market requires, to ensure the information is fed back to their own institutions, and to encourage the students and graduates with whom they are dealing to appreciate these requirements and to fit themselves to fulfil them. This is a task of some delicacy. It cannot be interpreted, for example, as trying to persuade institutions to change courses in response to every whim of employers. That would be quite unacceptable – in my view rightly so – to academics. Furthermore it would be ineffective since precise forecasts of changing manpower needs are notoriously inaccurate. Performing this task effectively involves trying to distinguish between long-term trends and short-term fashions – understanding, for example, that an ability to cope with numerical data, and an understanding of the effects of electronic developments, are long-term needs which will remain, and indeed increase, even though it is impossible to be sure precisely what developments in a particular industry will take place in the next, say, five years.

There are far more, and far more rapidly changing, employers with whom it is necessary to keep in touch. In dealing with students, the careers adviser's role is far more directly an educational role than it was in the past.

Careers advisers have always seen their main responsibility as being to students who consult them and by that criterion there is no doubt that the need for careers advisers who can offer well-informed advice and good judgment is greater than at any time since the war. If we are to take seriously the need for Britain to develop its full technological potential and to exploit it effectively, then there is a strong argument nationally, as well as individually, for this sort of provision. It is closely linked with my second prediction, about the shortage of people with essential skills. Faced with rapid developments, employers will not have time for a leisurely process of training people from scratch to cope with them. They will be looking for people, nurtured in institutions sensitive to such changing requirements, who are themselves equipped and inclined to learn quickly.

If one looks at it more parochially, therefore, the universities (and other institutions) themselves, if they are to survive not on sufferance, but because their value as a national resource and their contribution to efforts towards national survival are widely recognized, need to ensure that they and their students are sensitive to the demands of the national market place.

Against this background, it is worrying to see that in some institutions careers advisory services are being starved of resources at precisely the moment when their role has become more crucial than at any time since the war.

Special pleading will of course be the immediate reaction by many people to that assertion. Let me then make clear the position from which I am writing. The reputation of Cambridge and its graduates is such that they are always likely to be in a strong position in a competitive world. This university is quite badly hit financially, but nowhere near as badly as many others. My own service is having to take its share of the financial burden, but in no way could we claim we are being starved of resources or prevented from operating effectively. The difficulties faced by colleagues in many other places, however, are far more serious, in some instances to the point where, with the best will and energy in the world, they will be hard put to provide an effective service. Academic staff in such institutions would be well advised to stand back for a moment from their own problems and preoccupations to consider what grave long-term damage will be done to their institutions if the "marketing department" is treated in this way.

The author runs the Cambridge University careers service.

Of the new world and the old

Mexican novelist Carlos Fuentes has helped many Latin American writers to win a worldwide audience. Jason Weiss considers his work

"If there's anything against nature, it is writing. Sitting alone eight or ten hours a day, hunched and scribbling on paper, this can drive you nuts." For all his agonized doubts, Carlos Fuentes has been obsessed throughout his working life with the act of writing; history, civilizations, the complex cultural identity of his native Mexico have been the materials and the backdrop of his lonely struggle with language.

In his most recent novel, *Distant Relations*, Fuentes initiates the reader in the writer's responsibilities. The novel is narrated by an ageing French count, Branly, who is the point of contact between two families – one Mexican, one French – with the same name, Heredia. As the counterparts meet, delving into the transatlantic tangle of their history, the count discovers part of his own forgotten past. This has become the characteristic posture of the new Latin American fiction, hovering between a hallucinogenic subjectivity and a tough historicism. "One finds", says Fuentes, "that genealogy is very much like fiction. You cannot know the whole story. It is a fiction to say that fiction can end. Because if you are an active reader, you will not let the author finish the story, you want to finish it yourself." Like his South American contemporaries, whose influence worldwide continues to grow, Fuentes sees the reader as an active participant in the world of his fictions, *initiated* but never dominated by the author.

Fuentes's open adventure is indicative of the new language wrought by recent generations of Latin American writers. With such antecedents as the Argentine short story writer Jorge Luis Borges, and the poets Cesar Vallejo from Peru, and Pablo Neruda from Chile, the younger Latin American writers – with Fuentes, Julio Cortazár and the baroquely mythical proportions of Gabriel García Márquez at the fore – have been "restoring the facts of our civilization, creating our cultural identity".

In his earliest books, Fuentes ranges back beyond the conquest of Mexico to the great Aztec and Mayan civilizations and forward through the multi-phased Mexican revolution to the present, in portraying the imaginative reality of his land. "Mexico is probably the only country in Latin America that has made heroes of the defeated and not of the conquerors." Azuela's almost forgotten novel *The Underdogs*, published in 1915, suggests one literary source of this romantic pessimism. History, abstract and capitalized, suggests another. "Mexicans" are educated in the rhetoric of respect for the fallen Indian civilizations and respect for the revolution. We're all *mestizos*.

"In Mexico we're very conscious that we coexist with many cultures and many historical times." Nowhere is that knowledge of history more evident and more resonantly achieved than in his massive novel of 1976, *Terra Nostra*, which traverses Spain before the voyages of discovery, the fantastic realities of the New World as witnessed by the conquerors, and back to a Spain that must live with the greatness of what it has found and destroyed.

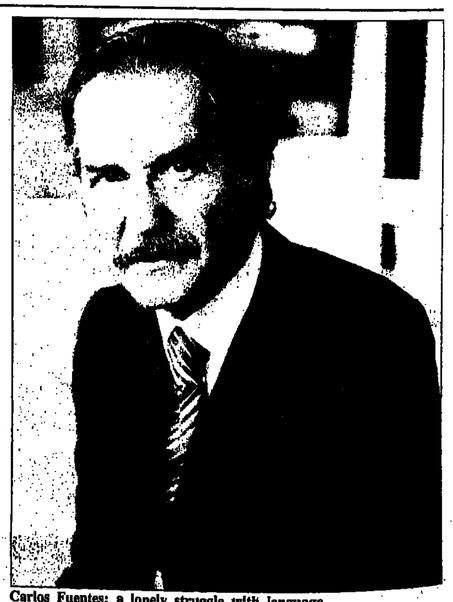
"America was invented by Europe", says Fuentes. "Europe wanted a place to regenerate man. The utopia on which the New World is premised was promptly corrupted by the epic of the colonization and the universality of the utopia broke up into the particular histories. Yet Latin America wants to be utopia desperately. And so does the United States. Therefore, we cannot have tragedies, which I think is a tragedy, only epics. Perhaps the only tragedian of the New World is Faulkner." History in the New World is something lived, experienced, rather than the abstract presence of the Old World. Fuentes never consulted a note while writing *Terra Nostra*, the book García Márquez has said requires a one-year fellowship to read. "It is something I have carried with me all my life." Fact and fiction merge, as in all his work, to render a powerfully poetic vision which links the personal with the historical in a way seldom seen in European and North American writing since the war. "History is only what we remember of history. It is our creation. But it doesn't exist if we don't remember it. That is, if we don't imagine it. We have to reinvent history."

After finishing *Terra Nostra* in 1975, Fuentes was free to accept a year-old offer from the then President Echeverría to become the Mexican ambassador to France. Coming from a diplomatic family, Fuentes recognized a unique opportunity to diversify the friendship and support between the two countries and for the next two years he had no time to write. But in 1977, he resigned his post in protest when former president Díaz Ordaz, responsible for the massacre of hundreds of students at Tlatelolco in 1968, was appointed ambassador to post-Franco Spain.

In his 1978 spy thriller, *The Hydra Head*, as in his most recent book, Fuentes turned more directly from history to story. Like many Latin American intellectuals, he knows European and North American literature almost as thoroughly as that of his own continent, particularly demonstrated in his ability to assimilate a wide variety of styles and modes. Each year he rereads the masterpiece of his native language, *Don Quixote*, the type and model for all modern fiction.

A keen interpreter of politics, a sincere advocate of culture and thought, Fuentes now lives most of the year in Princeton, New Jersey, lecturing and writing. Throughout his career he has helped numerous Latin American writers win an audience beyond their own borders. But he is quick to play down his large role in such continental solidarity. Fuentes is above all a man of conscience: "Only through the experience of failure do we understand the shadings of the world. Failure is a rather universal experience, much more so than success. In the measure that the United States meets failure – and it has met it in the last 15 to 20 years, God knows – that it goes through this experience of meeting the human race, it will become really a more civilized nation."

The author is an American poet and translator, living in Paris.



Carlos Fuentes: a lonely struggle with language

Gabriel García Márquez: baroquely mythical proportions

Making the most of a switched-on society

Tom Stonier discusses new technology and its implications for media bureaueracies

Western society is experiencing a series of technological revolutions which are changing our social and economic systems at least as profoundly as did the industrial revolution. We have not yet fully understood the electronic revolution, in particular the post-industrial economy which it created, when we the propelled into the next, the information revolution.

Television was the most important single technological development for the West in the third quarter of the twentieth century. Although atomic energy, antibiotics, and space explorations must also be classed as impressive none invaded the home as universally and as profoundly as did television. It changed attitudes, behaviour patterns, and social relationships within the home, across the country, and around the globe. Television is an extension of our eyes and ears, transporting them across time and space.

The computer is an extension of our brain. For the final quarter of the twentieth century, the most important single technological development will be the application of the computer in its miniaturized version, the microprocessor, the famous "chip", to a wide range of devices and processes. The microprocessor will affect all modes of employment; on the farm, in the factory, in transport, and in the office. Beyond employment, it will invade the home. It will alter almost every range of social, economic and cultural processes and institutions. By coupling the microprocessors to advanced communication devices, the new powerful electronic information systems have been created which herald the advent of the information revolution.

The computer is a piece of information machinery whose impact on society in general, and education in particular, will substantially exceed the impact of that earlier type of information machinery, the printing press. Micro-electronic information systems not only greatly extend the speed, output, cheapness, and distance at which the printed word can be disseminated, the computer can do things which formerly could be done only inside our heads.

New electronic information/communication devices will usher in the first genuine revolution in education in a 100 years. A century ago, our Victorian forbears created mass education. That was revolutionary. However, the classroom of today is merely an extension of that Victorian classroom. During the rest of this century, computer-based learning will increasingly shift the formal learning process out of the classroom back into the home (where it belongs).

As the microprocessor becomes as integral a part of our lives as the light switch, home computers will become as commonplace as television sets. Before the end of the decade there will have appeared a flood of sophisticated education software to go with these computers. The education software will range from teaching young children to read and write, introduction to numbers, science, history, etc., to advanced university subjects. Some of the advantages which the computer provides are:

The computer is interactive. Unlike books, tapes, films, radio and television, what happens next is largely determined by the user. This gives the learner a sesnse of personal control. In addition, by eliciting a response and involving motor activity, the pupil becomes actively engaged in the learning process.

A computer has infinite patience. One of the earliest extensive uses of computer-assisted learning occurred in Ontario in the late 1960s. It was designed to help an immumerate group of teenagers fulfil the maths requirements for college courses. The programme was successful from a number of points of view, not the least, exemplified by a girl who stated that the computer was the first maths teacher that had never shouted at her.

The computer provides privacy. Children, or, for that matter teachers, can make mistakes without anyone seeing them. It is easy to erase everything and start again. Good programs never put the pupil down. Instead, good programs provide effective positive reinforcement.

A computer can provide individual tutoring and attention to a level not possible in most classroom situations.

As Seymour Papert has pointed out (*Mindstorms*, Harvester Press, 1980), working with computers favours a more positive attitude towards mistakes. Users designing new programs are not "right" or "wrong". Rather they need to discover the "bugs". Mistakes are not something to be ashamed of, but to fix. Learning about mistakes and how to correct them leads to new insights about processes. With sufficient experience pupils develop a new information skill: advanced problem-solving capabilities. Papert has also pointed out (page 103) that pupils learn the skill of analysis by reducing complex problems to "mind-sized bites". It is possible to build a large intellectual system without ever making a step that cannot be comprehended.

As an extension of that process, learning to program a computer tends to favour on organized intellectual approach to problems with flow charts, systems thinking, and logic. Just as certain sports favour the development of coordination and particular muscles, so does working with the computer favour the development of certain intellectual faculties. Working with the computer, like crossword puzzles and chess, is "mind play".

The computer fosters precision and attention to detail.

The ability of the computer to simulate a wide variety of processes such as chemical reactions, ecosystems, demographic or economic changes, means that it becomes possible to train students to think laterally. Whether training astronauts, top level managers, or chemistry students, the use of computer simulations is probably the most cost-effective method to educate decision makers.

Computers can provide more interesting and understandable material because of the ease of producing animated material. Because the pupil can create his/her own, it becomes possible to invoke the pupil's own creativity and imagination.

Because of these features, computers can provide opportunities for several users to work together, including pupils and teachers. The learning experiences provide new situations not only for the students, but for the teachers as well. Increasingly, the role of the pupils will become that of "junior colleagues", while teachers become guides and "knowledge counsellors".

The opportunities for improving education are enormous. Computer-based education will be cost-effective and fun. The process will begin with middle-class and skilled working-class parents buying education software for their children to help them with their school work. The present rate of development is such that the teaching profession will feel its impact in the late 1980s.

The above should not be construed to mean that all education will, in the future, take place at home in front of a computer. Children will still go to school to talk, to play with other children, to engage in sports, to do group projects, etc. The function of teachers increasingly becomes that of "knowledge counsellors" and "information guides". They will not remain as mere drill masters or the disseminators of specific information.

A new class of teachers will be needed: "grandmothers", mature women (and men) who are retired, have some experience with children, who will be paid by the state to work part-time with two or three neighbourhood children in their own homes. This "electronic grandmother" combination, coupled to further technological developments in television and video-recording, will create a new education system of unparalleled power. It will also decentralize and individualize the education process.

Television helped propel society into the "communicative era". With the advent of increasingly more versatile and inexpensive aids in telecommunications, the face of television is likely to change further in the next few years. Advances will occur not only in producing programmes but also in the technology of transmitting, recording and receiving them. New networks of communications systems such as cable television will allow the consumer to choose from a much wider range of programmes. The television aerial is likely to be replaced by the receiving bowl or dish.

This means that the viewer could select not only from his/her own national network, but also from stations transmitting around the globe, furthering the build-up of a global supply or information. Being able to video-record programmes is important where programmes are likely to be missed due to awkward scheduling. Twenty-four hour broadcasting and receiving would be natural in a society whose foundations are the information technologies.

The importance of television in the home will be enhanced further by services such as British Telecom's Prestel, which in due course will evolve into electronic newspapers. The home user would "read" the paper on the screen, then commit articles of interest to print on the printer/duplicator run by the computer/word processor. Alternatively, items may be printed out automatically without checking them on the screen first.

The calling up of headlines from a list of contents would enable the person operating the keyboard to get the usual front page information, then by looking at further indexes, go in for further details to the desired level. The system would be open-ended and continuously updated. The *daily* newspaper would be replaced by a stream of immediate up-to-date information, backed up by huge computer-based information stores such as those being currently made available by *The Financial Times* and the BBC.

Information consumers (the readers) need not sift through data which is of little or no interest. Instead, they could concentrate on matters of greatest importance. An information service like this could be extended to classified data, which may be useful for, say, doctors or lawyers. A code could be established whereby only the authorized user could gain access to the classified information. This service could be financed by subscription.

Naturally there will be problems. The labour force needed to run an electronic newspaper system would be considerably smaller than the present requirements of conventional newspapers. trade union opposition would be great. To overhaul the old system and come to agreements with all the parties concerned may prove t be virtually impossible. It therefore seems logical that new systems will emerge making the old system of printed news distribution obsolete.

When the printing press appeared in Europe, the availability of books was restricted and it would have been hard to imagine every house possessing at least one book. At the moment, it may seem equally unlikely that most homes will have their own printers. However, by the turn of the century, with further developments in microelectronics and related technologies, it now looks probable.

The advent of optical fibres to replace copper cables, will substantially reduce the cost per unit of information transmitted and optimize the quality of reception. It will allow two-way television from home to home, home to television station, and home to office, the last of which will cause an increasing shift to home-based professions. The "Infinite desk", either in the home or office, will allow effective communication and information sharing around the world.

Just as advances in military technology have been so rapid that today, the fire power of a handful of soldiers exceeds that of a whole regiment of two centuries ago, so will a small group of professionals have at their command sufficient electronic information and communications technology to convert any home into a library, newspaper, film studio, or television station. The beginnings of a "cottage" information industry are already apparent. These processes will set the stage for the decentralization of organizations including the civil service, education, commerce and industry.

Organizational forms change. The more developed or complex they are, the more intricate and advanced their organizational structure and information systems will be. As John McHale has pointed out in his *The Changing Information Environment*, this progression may be plotted in four stages.

The first stage involves primitive bureaucracies in which the information flow is mostly in one direction: up and down, to and from the major decision centre. Essentially run by authority there is virtually no autonomous decision making further down the pyramidal structure. Job definition is precise and limited; decision rules and chains of command are fixed or statutory. In such an organization there is very little communication between people of the same rank.

The second stage reflects a number of technological advances such as the telephone, photoduplicators, etc. which increases communication within the corporate organization. There is a build up in the number of decision centres and command chains become briefer. There is an increase in the amount of job mobility at the upper level organizational tasks, and there is increasing communication between members of the same rank.

In the third stage, the organization is not merely a modified hierarchy but fundamentally has become a network or matrix. The advances in organization reflect further technological advancement in the form of computer and associated technology, which greatly speeds up feedback at all levels.

In the final stage the flow of information allows vertical, horizontal, and diagonal feedback, from, to and across all levels of corporate organization. Feedback processes have superceded one-way information flows. The highly educated individual is well equipped to deal with a variety of problems, and can cope with changes in policy and tasks. The managerial executive coordinates areas of study, which must be understood and solved by the use of experts whose knowledge fields overlap, and who may know more than the executive, but who on their own would be inadequate.

The concept of a hierarchical structure returns at this point, but a task-orientated rather than a fixed structural one. Where a decision centre used to be associated with a fixed position of power, now individual expertise and performance become the main criteria for ranking. As the problem or task changes, so does the nature of the expertise required. As the expertise changes, so does the power structure. The result is an open and elastic system, which is less confined not only in social terms, but also geographically. Global networks of professionals working from their infinite desk at home may create entirely new organizational forms.

Up until now, centralized, institutionalized organizations generally have been the best way of handling a large volume of production or services. However, there are at least three disadvantages to such large organizations. First, because they involve so many people, there is a great need to build up a large internal infrastructure to coordinate all the activities. This accounts for the enormous growth in office staffs during this century in factories and universities alike.

Second, such organizations become increasingly introverted, that is, they become preoccupied with their own problems and desire for survival, if not for expansion: increasingly, coal mines are run for the benefit of the miners, universities run for the benefit of the academics, hospital schedules devised for the benefit of the staff, etc.

Third, partly as a result of the second factor, and partly because of the large number of people (or goods) handled, the individual client becomes lost in the flow of mass production and standardization. As we move deeper into the "communicative era", decentralization will become a fact of life.

For those who grew up in the "mechanical era" whose overriding thrust involved centralization as a concommitant of industrialization, the process will be painful. One thing is certain, the society emerging after the information revolution will be as different from industrial society as the latter was from the Middle Ages.

The author is professor in science and society at the University of Bradford.

BOOKS

Goodbye to all that?

by Andrew Motion

Robert Graves: his life and work
by Martin Seymour-Smith
Hutchinson, £14.95
ISBN 0 09 139350 7
In Broken Images: selected letters of Robert Graves 1914–1946
edited by Paul O'Prey
Hutchinson, £12.95
ISBN 0 09 147720 4

Writing to Basil Liddell Hart in February 1936, Robert Graves included a stern piece of self-analysis:

> A naturally stupid gross person with a keen and hopeful sense of potential fineness: which I can only approximate by a) trial and error, b) critical observation of the errors and achievement of others.

The overstatements of this judgment are as revealing as its more moderate aspects. Graves is neither stupid nor gross, but much of his life and work has been shaped by a fear of seeming so. The enormous learning of *The White Goddess* shows all the signs of an over-compensating intelligence, and the classical restraint of his poetry – as well as a good deal of its argument – amounts to an underdeveloped trust in the pleasure and value of earthiness. "Down, Wanton, Down!" expostulates a famous early title, and many of his later love poems – tacitly and overtly – repeat the command.

What prompted these mental and physical anxieties? Martin Seymour-Smith's fat biography tells the narrative of Graves's life in immense detail, but it has little to say about the profoundest psychological urgings. The fact that Graves and Laura Riding are both still alive no doubt presents a barrier: when their relationship broke up in 1939 it released a cloud of bad feeling which could still envelop the incautious inquirer. Seymour-Smith's affection for his subject might well collude with this discretion – and even if it does not, it nevertheless produces problems of a different kind.

For one thing, although incidents are recorded with zealous thoroughness – we are even told the bus times from Graves's house in Deyá to Palma – they are too often left to speak for themselves. That is to say, the relationship between facts and the poems which might or might not depend on them is left unexplored. For another, the quality of the poems themselves is not proven. Seymour-Smith enjoins us to believe that Graves is "the foremost English-language love poet of this century – and probably of the two preceding ones, too", but his critical appreciations do not show us how, or why. As a result, Graves remains an enigma – a well-hidden personality flickering through the well-documented circumstances of his life, and a writer whose place in the history of twentieth-century literature is still obscure.

Seymour-Smith has obviously sifted through all the material in Paul O'Prey's judiciously edited *Selected Letters*, but its publication offers a welcome chance to sharpen our impression of Graves's character. He was a prolific and outspoken correspondent, and several of the earlier letters help to explain the internal pressures which determined later poetic and personal attitudes. As an old man he was to boast "I am partly Irish (Cromwellian). Remainder Scottish, German, Danish in equal proportions" – but as a boy this polyglot ancestry provided him with some cause for concern. It bestowed upon him, among other things, a German middle name, von Ranke, which at Charterhouse in the years before the First World War made him an object of suspicion and dislike.

Psychologically speaking, this bullying encouraged two responses which were to become increasingly pronounced: aggressive defiance on one hand, directed against a world he presumed to be hostile; and uncritical, romantic admiration on the other, for anyone who proved themselves friendly. Edward Marsh, the Georgian anthologist, was among the first properly to cultivate this second reaction, and his generous interest was crucial in forming Graves's poetic tastes. He advised Graves to emulate the Georgians' attempts at plain-speaking naturalism, and circumstances soon conspired to prove the value of this opinion. Almost as soon as Graves left school the war broke out, and its demands quickened his resolve to "root out more effectively the obnoxious survivals of Victorianism".

While the war helped Graves to purge his poems of sentimental langour, it also – in about the most dramatic way imaginable – confirmed his sense of the world's antagonism. Although his letters from the trenches are nearly all strikingly jaunty, their seeming lack of the horror and disgust we associate with, say, Owen and Sassoon, alerts us to the self-defensive measures that Graves is taking. A remark to Sassoon in 1916 is typical:

> Ohé. Roll on the trenches! I hear you've been risking your precious life again among them craters; I am pleased, damned pleased, you're doing so well; wish to hell I was with you – go on risking, and good luck. It's a man's game!

This and all such passages testify not to a failure to comprehend the vileness of war, but to a determined suppression of feeling, in order to keep emotions comprehensible and controlled. The jauntiness contains desperation – and desperation would absolutely destroy his "keen and hopeful sense of potential fineness". Apart from helping to explain why he should have discouraged Sassoon from protesting against the war, such an interpretation of the war letters' tone also gives coherency to Graves's life after he was invalided back from France. His marriage to Nancy Nicholson, his insistence that "Worrying about the war is no longer a sacred duty with me", and his rapidly declining interest in politics are all part of a deliberate policy to choose the private life as his sphere of operations, since the public one had proved itself uninhabitable.

But by the time Graves had decided to create a removed and private world, the shaping pressures of the public one had already marked him for life. This is evident in the very title of *Goodbye To All That*: it protests too much to convince us that a clean break with the past has been made. The self-consciousness with which he has cultivated his isolation from the main stream of English life and letters provokes a similar thought: Graves has spent so much time ostentatiously renouncing or forgetting his early life that we can only conclude it must persist in seeming vividly present to him. And when we are told by Seymour-Smith that for many years after the end of the war Graves suffered appalling nightmares about his experiences at the Front, and that in his old age his mind has returned more and more frequently to France, the suspicion that he has never managed to say "Goodbye" at all is confirmed.

One reason for making this emphasis is to suggest that the elaborate and enclosed world that Graves has built during the last sixty-odd years can be seen – like the tone of the war letters – as a device for restraining emotion. His relationships with friends made during the war provide several cases in point. Among his early, original associates, only Marsh could eventually claim not to have quarrelled with him – other Georgian contemporaries like Robert Nichols or Edmund Blunden had alienated themselves or been angrily rebuffed. Graves's relationship with Sassoon suffered more complex vicissitudes. After a few years of mutual admiration Graves's treatment of Sassoon in *Goodbye To All That* opened what seemed an irreparable breach. It was not simply that Sassoon had not been consulted before the book appeared, or that he felt misrepresented, but that his regard for Graves was made unstable by a discreetly homosexual attraction. Sassoon admitted in his diary for June 2, 1922 to "some vague sexual element lurking" in his feelings, and eight years later Graves was to tell him the friendship was "always distorted by several cross-currents; your homosexual leanings and I believe your jealousy of Nancy in some way or other." As a schoolboy, Graves had nurtured innocently homoerotic love for a friend, Dick, but when he later heard that this boy had propositioned a Canadian soldier, the news released a rush of anti-homosexual anger which was to flow unabated throughout his life. (This partly explains why he took such a strong aversion to W. H. Auden, whom he considered "a synthetic poet who probably never wrote an original line in his life.") Sassoon could hardly have expected to have been made a special case – in fact, by unavoidably exciting Graves's memories of the war, as well as stimulating his moral disapproval, he made their lasting friendship a virtual impossibility.

Robert Graves, a portrait by John Aldridge, 1968.

Graves and Sassoon were eventually, undemonstratively, reconciled. "Bless you, old boy", Sassoon wrote in 1957. But the story of their relationship is important for more than the light it casts on the extent to which Graves was tyrannized by the war. It also draws attention to a streak of sexual puritanism in Graves's character – one which affected more than his attitude to homosexuality. Graves's marriage to Nancy began to fall into disrepair when he was at Oxford in the early 1920s – partly because of the financial pressures upon it (notably a disastrous shop-keeping episode on Boars Hill), and partly for more personal and temperamental reasons. Tennysonian, sexually-morbid poems like "The Pier Glass" suggest a good deal of guilt and uncertainty about any kind of physical involvement:

> Ah, mirror, for Christ's love
> Give me one token that there still abides
> Remote – beyond this island mystery
> So be it only this side Hope, somewhere,
> In streams, on sun-warm mountain pasturage –
> True life; natural breath; not this phantasma.

What at first seemed like relief from this uncertainty came like a bolt from the blue. Just as Graves and Nancy were about to go to Cairo in 1926 – more for Nancy's health than for Graves's work at the university there – they were joined by a young American poet Graves had been in touch with by letter: Laura Gottschalk, now known as Laura Riding. In her fund-raising work for a group of American writers who called themselves The Fugitives, she had already shown herself to be hectic, intense and assertive – and Graves welcomed her as a means of miraculous deliverance. Although she began living with them as part of a successful ménage à trois – in Cairo first, then Vienna, then London – she rapidly became the dominant partner, alienated Nancy, and took control of Graves.

Her appeal was never primarily to his sexual instincts – Graves's fear of "grossness" would have prevented that – but to his longing to construct a satisfying private world. She was a systematizer, a theorist, and she dramatically advanced the attempts to frame articulate literary principles that Graves had begun to make at Oxford. Her conviction that poetry was "the only true reality: a form of words independent of time", and her ambition to achieve "finality" and of history, end of the tyranny of time, annihilation of "matter", had the effect of disciplining and (apparently) dignifying Graves's isolation from the contemporary world he fearfully despised.

The obvious outward and visible sign of this isolation was Graves's and Riding's move to Deyá, Mallorca, in 1929, but it only occurred after a farcical interruption by the gross world. Before they left London Geoffrey Phibbs, an aspiring Irish writer, arrived at their flat, was seized upon by Riding as more grist for her mill, fell in love with her, then with Nancy, and was eventually the indirect cause of Riding jumping from a fourth floor window. But once her broken bones had mended, and Deyá had been achieved, the familiar clumsy world was not allowed much of a look in. Graves, who was a naturally dominant personality, allowed himself to be wholly ruled by Riding. He was embarrassingly defensive about her qualities, exaggeratedly humble about his own achievements, and almost completely subservient to her. One regular visitor to them, Tom Matthews, put it in a nutshell: "she was not so much his mistress as his master; he was *in statu pupillari* to her."

In view of this imbalance, it is hardly surprising that Riding has been criticized as a bully and an obsessive, and that Graves has been pitied as a deluded dupe. But for all its unpleasantness and dottiness, their time together allowed Graves to produce much of his best poetry, a considerable amount of his durable prose (the *Claudius* books and *Count Belisarius*), and much of the inspiration, if not the material, for *The White Goddess*. When their liaison acrimoniously broke up, in 1939, she had either exposed or created most of the characteristics, methods and interests that he was to draw on for the next forty or so years.

She had also, by the force of her systematizing personality, helped to develop the paradox that is an unignorable feature of the work for which Graves is most renowned: his love poetry. Graves has habitually repressed the intimacy and passion associated with the genre by overlaying them with a grid of types, archetypes and references – of Muses, Rivals and ancient antecedents. The war taught him the purpose of withholding his candidly strong feelings; Riding showed him how to elaborate his restraint. To a reader who admires this process, the love poems exhibit a classical poise and an immaculate control. To a reader who does not, or is in two minds, they are likely to seem cold, and capable of being too absolutely resolved.

Even before Graves's separation from Riding, he had transferred most of his attention to the wife of a friend, Beryl Hodge. For a while it looked as if another ménage à trois would develop, but with the blessing of her husband, Alan, Beryl soon became Graves's sole companion. During the Second World War – for which Graves eagerly volunteered, only to be rejected – they lived reclusively in Devon and then returned to Deyá in 1946. This was three years after the young Seymour-Smith had appeared on the scene, so the biography, predictably, chronicles the last long exile in especial detail. In terms of incident, though, it is unexceptional – occasional visits abroad to read or lecture, and occasional bouts of argument and reconciliation with friends. It is often unremarkable in terms of personality, too – Beryl herself remains on extremely shadowy figure, presumably because Seymour-Smith wishes to spare her feelings, and the various Muses who intermittently obsess Graves are valued less as personalities than as receptacles for his systematizing fantasies.

What remains astonishing, however, is the volume of work he produced. Nineteen forty-eight saw the publication of *The White Goddess*, which is both an attempt to organize the past ("a rationalization of Riding" as well as the vast mass of antiquity), and a statement of the values to which all his later writings owe loyalty – and until the mid 1970s, when he became too ill to write, poems, stories, editions, and essays continued to pour out. As Seymour-Smith methodically catalogues and describes them, the effect is to produce an impression of Graves working determinedly – desperately, almost – to create a private world which was large and complex enough to become an acceptable alternative to the public one he had rejected. It is hard to think of any other writer this century who has made an equivalent attempt, apart perhaps from Yeats. But Graves has virtually forbidden this parallel to be drawn: "Yeats", he scoffed to Liddell Hart: "a spiritualist and that is inconsistent with being a poet".

If Graves had looked less at Yeats's theoretical pronouncements, and more at the poems, he would have seen that Yeats's involvement with the public and political world was more developed than his own. They are both poets who seek to combine their sense of empirical reality with their idealistic longings: it is part of Yeats's greatness that he was always prepared to admit that the familiar world might get the upper hand, and part of Graves's self-defence that he has always been prepared to sacrifice it to the demands of a preconceived system.

Andrew Motion is the editor of "Poetry Review".

BOOKS

Political crusades

The Nonconformist Conscience: chapel and politics 1870–1914
by D. W. Bebbington
Allen & Unwin, £10.00
ISBN 0 04 942173 5

Delineating the contours of a "conscience" can hardly prove a simple exercise: one will need a sensitivity to symbol and a willingness to probe the corners of unspoken mentality.

Dr Bebbington deflates his subject into something more manageable. He concentrates on Nonconformist attitudes in *fin de siècle* Britain and discerns in them a cohesive popular force that made its mark by hard-hitting rather than appeal to sophisticated sensibilities. This conscience is the one first observed by *The Times* in 1890 as a body of resistance against politicians' toleration of Parnell's philandering. It amounted, in the forty years after 1870, to a set of limits for political behaviour intended to police the boundaries of Liberal doctrine. It was overt and aggressive and (viewed from the back benches) highly embarrassing. Whether it mattered very much is a question to which this book implies a number of answers.

Dissent made itself felt politically through the Liberation Society, Edward Miall's creation of the 1840s, and the Free Church Council. The former ran into hard times, paradoxically, at just the moment when Nonconformist pressure peaked. The disestablishment motif had lost its drawing power since 1869 and the society was losing its evangelical edge. But the Free Church Council – "chief vehicle of the Nonconformist conscience" – fared better. It scored well against the forces of sin when Anglicanism learned new conceits in the 1890s, and it threatened to lay Lucifer forever in the 1906 election when Sylvester Horne counted in the new House more Nonconformists than Tories. Yet even here power turned out to be illusory. The commitment of many MPs stopped at formal ascription; their evasions underpinned a mood of despondency which found its emblem in the decision of the Free Church Council's secretary to end it all in the sea under Brighton pier, "his breath smelling of spirits".

This weakness of organized Nonconformity as a political vehicle doubtless accounts for the way in which much of Dr Bebbington's study takes on the character of *rapportage*. His theme is less one of "chapel and politics" than of what the chapels thought about politics. More precisely, it illuminates the differing reactions of the various denominations to party and government policy – to social policy, for example, to Ireland, imperialism and education.

The differences were often striking and showed themselves capable of vitiating the capacity of Nonconformist leaders to influence events. When the Liberal party split over Home Rule the preponderant strand of opinion within Dissent supported Gladstone; but Birmingham Congregationalism followed Chamberlain under the leadership of R. W. Dale while Wesleyans nationally tended to gravitate to the Unionist side. Wesleyans also distanced themselves from Nonconformist criticism of the empire in general, but in this sphere Congregationalists – Dale included – felt more reticent about imperial expansion. These divisions are apparent in most Nonconformist responses. For a few years, from the Armenian massacres until the Liberal victory of 1906, most of them were held in check as Dissent supported, for the most part, the Boer War and threw itself into a campaign against denominational teaching in the schools invited by Balfour's hated Education Act of 1902.

But Dr Bebbington finds again and again that his trail leads nowhere: by 1910 the conscience has seemingly lost its potency. What political Nonconformists needed to attack was a windmill on a hill – some national eyesore which could be stormed by an army nervous of its flanks. The Contagious Diseases Acts, the Turkish massacres, the brewers, the priests: all of these could rally a conscience. But such issues rarely comprise the heart of political discussion for any length of time and the Nonconformists' influence outside particular causes is impossible to quantify.

Some impressions are dispelled in this careful analysis but they can be replaced only with different ones. Dr Bebbington likes the broad brush-stroke: if he did not he would not try to present his story in 160 pages. But important areas of discussion are inevitably obliterated. Electoral opinion is allowed to become a "groundswell" of Dissenting influence – within the New Liberalism, for example, or within the opposition to Home Rule. Nonconformist power is somehow "felt" rather than demonstrated. And when the attempt is made to give chapter and verse, so much of the evidence comes from Nonconformist (and public) sources that one is left stimulated rather than convinced.

In another sense it may be that Dr Bebbington inadvertently lightens the scales and gives the "conscience" less weight than is its due. By defining his subject so narrowly he is driven into providing a skeletal framework which allows much of the material he has diligently collected to fall through it. What remains is a clear and balanced introduction to the complexities of Nonconformist political agitation; but there remains also an awareness of something having escaped between the fingers.

Michael Bentley

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The rule of nine

A Medieval Italian Commune: Siena under the Nine, 1287–1355
by William M. Bowsky
University of California Press, £21.00
ISBN 0 520 04256 5

The regime of the mercantile oligarchy known as the Nove was not the most glorious in the history of the Sienese commune, but it gave to the city its most characteristic monuments, among them the Campo, the Palazzo Pubblico and the Lorenzetti frescoes depicting political ideals known as the allegory of Good and Bad Government. Professor Bowsky confesses that he has been captivated by the city since 1955 and that his book is the product of two decades of enjoyable immersion in Siennese history. He has chosen to write, not a political history nor yet a study of Siennese society, but rather an administrative history which could be aptly subtitled "Siennese government at work, 1287–1355".

After a brief sketch of the city and its territorial setting, Bowsky examines in turn the main organs of government, such as the *podestà*, the captains of the *popolo* and of war, the Nine, the councils and the judiciary, following up those aspects which are most fully recorded in the surviving public documents. Particular emphasis is placed on two offices whose importance increased notably during the period: the War Captain who took over internal security functions, including jurisdiction in cases of conspiracy against the state, and the Mercanzia which not only heard commercial cases and disputes between the guilds but also controlled the currency.

Bowsky claims that in the context of its time the rule of the Nine was both well-meaning and effective, but he makes no attempt to quantify its achievements or draw comparisons with other regimes. One would like to know, for example, whether the Florentine corn-factor Domenico Lenzi was justified in execrating the Siennese authorities for failing to provide for their poor during the famine of 1329 or whether his view was warped by Florentine *campanilismo*. Overall Bowsky seems strangely reluctant to push his researches to a conclusion; he pulls back from offering his well-informed opinion on matters of considerable interest. For example, the minimal role of the guilds in Siena would have been illuminated by comparison with other cities than Florence, for example Ferrara, where the guilds were formally abolished in 1287. Again, the precise relationship between the Captains of the People's Party and the Captains of the Knights is left unclear, although this is a matter of some importance in view of the obscurity of the Florentine evidence on this point and the uncertainties about the significance of knighthood in central Italy at this time. The references to secret councils which seem to have corresponded to the well-known Florentine *consulte e pratiche* are tantalizingly brief.

The regime emerges as remarkably modern in its preoccupation with economic well-being, public order and political stability. The role of religion as a social bond is well brought out, though the provision for flagellation in the rules of the groups of *disciplinati* is not mentioned (it may be imagined that this had some effect on the personal relationships of those involved). As in Venice, artistic expression was overwhelmingly public rather than private in character, and the unusual concern with the aesthetic quality of the environment from which the city has benefited down to the present day, seems to fit in with the oligarchy's drive for peace and stability. The lack of personal memoirs, of which the Florentines produced so many, may reflect the more static society of the smaller city.

These and other questions call for further investigation, preferably on a broader scale than that of a single regime or city-state.

J. K. Hyde

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Ideas in practice

The Philosophes and Post-Revolutionary France
by John Lough
Clarendon Press: Oxford University Press, £19.50
ISBN 0 19 821921 0

The ultimate phase of the study of the history of ideas, and in many ways the most dangerously tempting, is probably the one in which the ideas themselves are put to the acid test – how they turn out in practical application. The French Enlightenment would seem to lend itself especially well to this kind of treatment since it was concerned above all with producing political and social change, even though the *philosophes* themselves may have sought not to make their political preoccupations too obvious.

What Professor Lough has attempted here is to trace the fortunes of certain of the major ideas of these same *philosophes* from the late eighteenth century right up to the present (where applicable) in France. This has been tried before in respect of certain political theories, but John Lough would appear to be the first to cover in this way a fairly comprehensive range of the ideas of the *philosophes*. His method is straightforward: he takes various ideas which were central to the French Enlightenment, examines them as they are seen in the works of the major *philosophes*, and then traces the way in which each of these idens has subsequently been assimilated into the social, economic, or political fabric of France, or in some cases rejected.

The broad headings which he treats are government (including such matters as constitution, franchise, and so on), social and economic questions (class structure, economic and financial matters, and the burning issue in the eighteenth century of the relief of pauperism), law, crime and punishment, and finally the secularization of society (including church-state relations, freedom of thought and censorship, and education).

The *philosophes* whose works are quoted as the authorities for these ideas cover a wide sweep, from Voltaire and the Marquis d'Argens in the older group, through the generation of the *Encyclopédie* (Faiguet de Villeneuve, the Chevalier de Jaucourt, Damilaville, Boulanger, Marmontel and Morellet) and including the eclectic abbé Raynal, and then on to the younger generation with Chastellux and Naigeon. Most quoted of all perhaps is Condorcet who thus brings the ideas of the Enlightment proper up to their latest possible point, as several of his works quoted date from the years of the Revolution itself. It will be obvious from this list that Professor Lough is using the term *philosophe* in a fairly closely defined way, as he makes clear in his introduction; not merely as shorthand for "connected with the French Enlightenment".

The strength of this book lies in its exposition of the ideas of the *philosophes* as seen through the works of the authors listed above. In all areas dealt with there is a full and copiously documented examination of their views and ideas, giving full weight to their tergiversations, shortsightedness, lack of candour, even downright obscurantism, (as in their attitudes to the education of the masses), as well as to their liberalism and general enlightenment. One major aspect of their thought which is not adequately discussed is their support for the new and, at the time, peculiarly English concept of science, the new experimentalism.

If there is a weakness in this book it is certainly in the very summary treatment which the later fortunes of the ideas of the *philosophes* receive. Although these sections are presumably the *raison d'être* of the work and its chief claim to originality, they rarely get more than a page or two, sometimes only a paragraph, in which the bare bones of the matter are laid out. Very little is made in particular of one of the most interesting aspects of this whole question, namely the way the ideas of the Enlightenment often acted as a stimulus to thinkers of the following century who either developed them or reacted violently against them. These are the people who were the true successors of the *philosophes* and who were often much more instrumental in producing political or social change than were the *philosophes* themselves. Joseph de Maistre and Bonald, by reacting violently against the ideas of the Enlightenment, played a large part in moulding the ideological bases of the extreme Right in France and even of Pétain's abortive *Révolution Nationale*. Others, such as Saint-Simon, Proudhon, and Auguste Comte, carried on certain traditions of Enlightenment thought, especially its belief in material progress and the scientism which marked the *Encyclopédie* in particular.

It is in fact this very lack of study of the transfer of the ideas of the *philosophes* to the following century which is the greatest disappointment of the book. Although Flaubert shows us in the apothecary Homais in his *Madame Bovary* an example of a mid-nineteenth-century disciple of Voltaire and the *philosophes*, he is already an anachronism, an example of the common phenomenon among the under-educated of culture-lag. Homais and the thousands who were doubtless like him in the depths of the French provinces in the mid-nineteenth-century, were already two or three generations out of date in their ideas. Political, social, and economic thinking and action were already beginning to be influenced by new generations of thinkers who certainly owed much to the *philosophes*, but who had brought much of their own also and who were in any case living in a very different economic and social environment from that of the *philosophes*.

F. G. Healey

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NEWS

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BOOKS

Deus ex machina

Method in the Sociology of Literature
by Lucien Goldmann
translated and edited by William Q. Boelhower
Blackwell, £8.50 and £3.95
ISBN 0 631 12769 0 and 12809 3

Lucien Goldmann: an introduction
by Mary Evans
Harvester Press, £15.95
ISBN 0 7108 0067 3

It can be no accident that much of the most convincing Marxist criticism has been of Baroque culture. There is a special affinity between dialectical materialism and the thinking of the first "century of revolution".

The sociology of Lucien Goldmann, for instance, with its almost Platonist doctrine of correspondence between economics, ideology and art, resembles nothing so much as some seventeenth-century dialogue of the body and the soul. And when Goldmann describes, in *The Hidden God*, the chain of homologies linking the plays of Racine, Jansenist theology, and the crisis of the *Noblesse de Robe*, we are back with the great Shakespearean metaphor of the microcosm and the body politic, where genius and history are "in council", and when the revolution comes, "the state of man, like to a little kingdom, suffers the nature of an insurrection". The method works so well for the age of the Sun King, and along the fault-line between feudal and capitalist modes of consciousness, because analogy was the means that Goldmann's subjects used to recover meaning, in a universe from which God was absconding.

The undoing of Goldmann's system came when he applied it to later cultures whose ideologies were more intractable. Robbe-Grillet himself objected when Goldmann interpreted the *nouveau roman* as a reflex of the consumer society in which objects had finally supplanted the hero. If Goldmann were alive today he would doubtless be busy relating deconstructionism to the dismantling of the Keynesian economy, just as he had ascribed structuralism to its regulating mechanisms. Such schematization came to look increasingly mechanical, and since his early death in 1970, Goldmann has been derided by Marxists and liberals alike for the idealist abstraction of his pursuit of the "transindividual subject" supposedly hidden in the collective consciousness, and for his infatuation with macrocosmic "totality". His English reputation has never recovered from the obituary written for the *TLS* by David Caute, which likened this quest for a sociology of the text to "the child who sends a postcard addressed to Acacia Road, London, England, the World, the Universe".

Because he never had time to articulate a coherent aesthetic, it has been all too easy to dismiss Goldmann as a kind of Marxist McLuhan, mesmerized by his global vision at the cost of all contact with reality. On the left, he has been represented as a mere disciple of the early, neo-Kantian Lukács, who committed the unpardonable heresy when he argued that Marxism was *itself* a socially determined construct. Now, however, after a decade of neglect, the publication of a collection of his final essays, *Method in the Sociology of Literature*, reveals the solid foundations of Goldmann's grandiose project to read every text as if it contained within itself its entire context. The god who emerges at last from Goldmann's dialectical machine is neither Marx nor Freud. He sees these as the forerunners, the first to recognize that "nothing is ever without meaning, but everything possesses a meaning *which will be revealed* once we integrate it into its context". If it was Pascal's dictum that, though hidden, God lets those who seek find Him, which inspired Goldmann's hermeneutic, his own revelation came when, escaping France in 1940, he sought out the one thinker who, he discovered, reconciled the individual and society, consciousness and reality, subject and object, in his interactionist epistemology. Goldmann's mission to be for ever searching for the whole within the parts dated from his meeting with the Swiss developmental psychologist, Jean Piaget.

It would be tempting, applying Goldmann's own procedure, to consider these essays, which date mainly from after May 1968, as the expression of French intellectuals' disenchantment with the Communist Party that had failed them in "the events". In fact, Goldmann's defection from orthodoxy to Piaget's genetic epistemology, first made explicit here, is traceable to his work on Pascal and Racine, which was so successful precisely because it rejected a crude determinism in obedience to the Piagetian axiom that the human mind is an active participant in what it knows. As we learn from these essays, which comprise a chronicle of French academic attitudes in the late-1960s, it was Piaget's thesis that consciousness evolves by a process of assimilation of the environment into prior conceptual structures and accommodation of those structures to the environment, which dictated Goldmann's belief that Marxist theory has no "scientific" status, but must adapt itself to praxis.

The notion that the object is in the subject, and *vice versa*, made Goldmann an awkward ally, insisting on the reality of the object during the heyday of existentialism, reaffirming the subject against the linguistic structuralists. But genetic epistemology provided Goldmann with the heuristic categories that enabled him to explain, with more rigour than anyone before, what made a "world vision", and to answer "the great riddle" propounded by Wolffin, as to why it is that "not everything is possible in every era". Moreover, it was a logical step from Piaget's proposition that consciousness organizes itself in increasingly complex pictures of reality, to Goldmann's claim that the work of art is itself a "significant structure" whose value depends on the coherence with which it expresses a "global image". This definition has proved Goldmann's most influential contribution to aesthetics.

The importance of these late essays is that they demonstrate that far from being idealist, Goldmann's attempt to create a truly dialectical sociology of literature was firmly anchored in the reality of "the living, flesh-and-blood human being" who writes the text. The logic of his global theory had its validation in Piaget's transformational experiments with that most imperative of transindividual subjects, the learning child.

Goldmann was a brilliant synthesizer. This fact may be crucial in the revival of interest in his method. Genetic épistemology such as he practised, and such as Piaget elaborated in his own last works, offers the most compelling version of structuralism with a human face. It conforms more closely than Foucault's rigid archaeology of knowledge to current models of science.

The application of the genetic structuralist method to English literature remains a challenge. Goldmann, notoriously, wrote only a single paragraph on Shakespeare. That frank confession of ignorance ought also to be an invitation. Response will not, however, have been encouraged by the untimely and lacklustre introduction to Goldmann's work which has been concocted by Mary Evans. Most of her book consists of an uncritical paraphrasing of his ideas on art. Nothing prepares the reader for the final chapter, which is a polemical indictment of his politics from an old-style Marxist standpoint. The real villain here is Lukács, and Goldmann is interpreted as his Mephistopheles. The book is the latest manoeuvre in the long Marxist civil war, and it completely ignores Goldmann's debt to Piaget. By doing so it diminishes his true significance. The appearance of his own last thoughts proves how far he had transcended the "world picture" of the 1950s.

Lucien Goldmann

Richard Wilson

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Theatre of spectacle

Music and Theatre from Poliziano to Monteverdi
by Nino Pirrotta and Elena Povoledo
Cambridge University Press, £30.00
ISBN 0 521 23259 7

The early evolution of opera – as with any art form for which technology is not decisive – will always remain controversial. Photography begins with the camera: opera begins with medieval church drama, the *pastorale*, court entertainments, the humanist revival of classical theatre, and the decline of polyphony. All these are crucial elements in the progress towards the genius of Monteverdi and *L'Orfeo*, in which for the first time the full force and range of expressive possibilities became manifest.

In this magnificent volume Nino Pirrotta, one of early music's elder scholars, sidesteps the "*Rappresentazioni*", the Roman tradition of sacred drama, and also underplays the significance of the Camerata, the group of Platonizing musical intellectuals, in the evolution of the form. Instead, he concentrates on Italian banquet ceremonial and the part played by music in the theatrical interludes known as *intermedii*. Boldly speculative yet not afraid to admit the gaps in his evidence, Pirrotta creates new problems and suggests new solutions: the effect is wholly absorbing and stimulating.

The great variety-shows (for want of a better phrase) devised for wedding feasts and court occasions are among the grandest features of Renaissance culture – Stephen Orgel and Roy Strong have explored the analogous Stuart masque, and Frances Yates the French *ballet de cour*. In Italy, the entertainments were frequently used to fill in the gaps between courses at banquets. Their substance was spectacle, dancing, and mime – novelty of presentation was more important than content. Music's function was largely incidental – comic madrigals, or *frottole*, would accompany a simple dramatic situation, usually mythological and bearing an obvious allegorical relation to the state event in question. From the Mantua of 1480, court of Mantegna's new wedding-chamber frescoes, came Poliziano's *Orfeo*, the text of which survives today. This *Orfeo* is a verse play with songs; it represents for Pirrotta an advance towards the concepts of monody, "a style midway between spoken language and song and which relied for its shades of expression on the performer's flexibility", which Monteverdi's *Orfeo* was to fulfil over a century later.

Other essays deal with music and mime interludes in the revived Terentian and Plautine five-act comedies and the development of these interludes into a version of the classical chorus, mediating between actors and audience and presenting in song a moral perspective on the principal action, as well as marking the passage of time. Later, Pirrotta suggests, this grew into the popular device of having twin parallel planes of the human and the divine in early opera. Particularly fascinating is the account of attempts to meet humanist demands for coherence and realism in the use of music in drama – hence the convenience of the musician Orpheus as a way of introducing singing on to the stage, Mockery of the conventions of opera is apparently as old as the form itself! The essay on "Early Opera and Aria", already published elsewhere, is an acknowledged classic: it is a profound and illuminating study of the supersession of polyphonic complexity by the freedom and expressive clarity of the *musiche ariose* which characterized the operatic idiom.

The second half of the book, by Elena Povoledo, is a similarly authoritative discussion of contemporary scenography. These chapters chart the change from the medieval "itinerant" stage (often a series of floating waggons) to the impeccable urban perspective sets of the early sixteenth century, designed to satisfy the precepts of pseudo-Aristotelian Unities; to the unbelievable spectacles of the Baroque theatres with their endless quest for new mechanical ingenuities and illusions. Here Povoledo sees a breakdown in the natural relationship between play and spectator, leaving "the figurative ambiguity of mannerism", a seductive world of images, expressing something of the Counter Reformation distrust of reality.

It is a world far removed from the other great new theatrical form of Renaissance Europe – Elizabethan poetic drama – in which linguistic richness compensated for the relative poverty of material resources.

Rupert Christiansen

Rupert Christiansen is working on the forthcoming "Oxford Companion to Music".

Who tells the story?

Kafka's Narrators: a study of his stories and sketches
by Roy Pascal
Cambridge University Press, £22.50 and £6.50
ISBN 0 521 24365 3 and 28765 0

In his *Qu'est-ce que la littérature?* Sartre gave powerful expression to a widespread unease among modern writers about the relation of literature to reality; he drew particular attention to Kafka's significance as an author who provides no conclusions.

Kafka's narrator is indeed typically more or less confined to the viewpoint of his hero; the resultant ambiguity or perspectivism is well known, even if few interpreters have taken full account of it. It is this crucial matter that the late Professor Pascal tackles in this book on Kafka's short fiction, in which he relates narrative perspective to the presentation of unresolved or unresolvable problems. Pascal's death in 1980 prevented the completion of the study. Clearly he intended to say more on the relevance of his analysis of the stories to Kafka's novels and on Kafka's place within twentieth-century developments. Nevertheless this fragment is a not unworthy conclusion to Pascal's distinguished career.

Pascal shows that the absence of a trustworthy narrator in *The Judgment* and *The Metamorphosis* precludes both an objective understanding of their events, and objective moral judgments about their characters. These conclusions are not new, but his detailed analysis gives them new force. Convincing too is Pascal's argument that the theme of *In the Penal Colony* is the unresolved conflict in the traveller's mind. Pascal links that conflict to the attitudes of German and Austrian intellectuals in 1914 towards authoritarian and humanitarian values. He also explains the origin of the "*Luftmunde*" (air-dogs) of *Investigations of a Dog* as a pun on "*Luftmenschen*", the "men of the air" who mysteriously rode high on the winds of inflation, but he does not interpret the story as an economic parable. His commentaries on *Little Fable* and *Give it up!* are particularly level-headed and rewarding and follow acute remarks on parable and fable as genres.

The evident limits to Pascal's knowledge of secondary works are counterbalanced by his close reading of Kafka's texts, and by the experience in investigating narrative perspective that he gained while writing his book on free indirect speech in nineteenth-century novels (*The Dual Voice*, 1977). Sometimes he lacks caution in unearthing statements which emanate from the impersonal narrator rather than from the consciousness of the hero; but that does not seriously detract from his initial important point about the limits of Kafka interpretation. However, later in his book he moves towards wouldbe definitive readings of the kind that he theoretically rejects in his first chapter. His argument that Kafka developed from impersonal to personal narrator, from despair towards serenity, requires modification, and not only because it entails a cavalier treatment of chronology.

There are signs that he was about to qualify his reading of *Josephine the Singer* as "the story of the triumph of art" (page 232). Given time, he would surely also have removed some inconsistencies in his description of the "finality" of the earlier stories and decided in favour of the phrase "mobility of viewpoint" (which he recognizes as a source of humour or irony) rather than "lapses" or "inconsistencies". Perhaps also he would have related Kafka's search for a "completed" form that would embody consciousness of incoherence more clearly to his search for personal clarification and philosophical understanding. That relationship would have been central to any conclusion on Kafka's success in discovering a means to face without terror the riddle of existence.

Despite its incompleteness and lapses, Pascal's well-written study deserves to reach a wide public. It shows how the problem of narrative voice is linked with that of an authentic portrayal of reality, and it forces the reader to face the insistent, central problem of Kafka criticism, the elusiveness of his meaning.

John Hibberd

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BILINGUALISM: BASIC PRINCIPLES
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BOOKS

Genetic cycles

DNA, Chromatin and Chromosomes
by R. Morton Bradbury, Norman Maclean and Harry R. Matthews
Blackwell Scientific, £9.80
ISBN 0 632 00554 8

A. T. Sumner

A. T. Sumner is a member of the scientific staff of the MRC Clinical and Population Cytogenetics Unit, Edinburgh.

The proposal, almost thirty years ago, of a plausible structure for the DNA molecule, implied certain mechanisms for its main biological functions: replication, and the direction of protein synthesis. Research on these processes is more active than ever, with much of the emphasis on their control; and considerable effort is also being put into the study of DNA sequence and packing.

Many books have been written on various aspects of chromatin structure and function, and gene regulation, including the fashionable but turgid multi-authored, multi-volume kind. What has been lacking is a shorter, more straightforward account of the whole field, suitable not only for undergraduates, but for biologists with an interest in this field who have neither time nor energy to tackle the more extensive accounts. *DNA, Chromatin and Chromosomes* is aimed at these two groups. Its authors are well-known for their work on chromatin structure and gene regulation, and are thus well qualified to write a first-hand account of the subject.

This is not, however, a book about DNA or about chromosomes. Indeed, the construction of the DNA molecule from purine and pyrimidine base pairs, sugars and phosphates is glossed over, the reader being referred to school textbooks for details. It is, I feel, a mistake to omit information merely because it is believed to be well-known: there will always be someone for whom it is new, or who cannot recall the details. Similarly, only selected information on chromosomes is presented, although this is justifiable in view of the authors' aims.

Chapter one describes the components of chromatin, and is appropriately followed by an account of the organization of these components into a functional structure. Chapter three, on the structure and function of prokaryotic genomes, epitomizes the main fault of this book: a striking lack of coherence between chapters. Why should a book essentially about chromatin, a eukaryotic complex, devote its longest chapter to prokaryotes? There are indeed many matters that can be illuminated by comparisons of the different ways in which prokaryotes and eukaryotes solve similar problems, but this point is not adequately brought out. I am nevertheless grateful to the authors for this useful account of the ways in which prokaryotes organize and regulate their genetic material.

Further chapters cover DNA sequence and gene arrangement, including a brief but useful section on techniques of genetic engineering, and on the cell cycle and replication. Chapter six gives an excellent account of transcriptionally active chromosomes (that is, lampbrush and polytene chromosomes), and a final chapter discusses gene regulation, concluding appropriately with a description of the various hypotheses that have been proposed for the control of gene activity. Ancillary sections of the book include a glossary and full or half-page chapter summaries. Although the inclusion of these latter is an attractive innovation, which complements the list of contents, I am not sure who will find them useful, as the information given is too condensed.

It would be difficult to fault the general plan of the book, which certainly covers the essentials of the subject, and no topic of importance seems to have been omitted. In the execution of this plan, however, a number of weaknesses have appeared which make the book less than satisfactory to read. Besides the lack of coherence between chapters, no doubt partly a result of the number of authors, there are con-comitant differences in style, including several verbal infelicities (for example, "different to"). Several of the figures are less than clear, and a few are quite difficult to interpret. Finally, there is an unacceptable number of misprints, although few are likely to cause confusion.

Despite these limitations, *DNA, Chromatin and Chromosomes* provides a comprehensive, up-to-date account of the structure, replication and activity of chromatin. It should prove valuable not only to its intended readership, but to a wide variety of biologists.

Basic mechanics

Mechanical Foundations of Engineering Science
by H. G. Edmunds
Ellis Horwood: Wiley, £17.50 and £7.50
ISBN 0 85312 281 4 and 354 3

Aimed primarily at first-year undergraduate students of engineering science, though it is also relevant to those taking mechanical, civil and electrical engineering degree courses, this book attempts to present a unified treatment of the basic mechanics needed later for more specialized courses in solid body mechanics, continuum mechanics, fluid mechanics, soil mechanics, strength of materials and structural analysis.

There are two contrasting methods of teaching basic mechanics to engineering students. The traditional approach has been to start with simple practical examples and gradually work up to the more complex general case. In the present text the problem has been generalized from the outset and particular topics are then used as illustrations. An attraction of this approach is that conceptually, three-dimensional problems become no more difficult to handle than problems in two dimensions. The treatment is, however, mathematical and students must be able to cope easily with the mathematical manipulations involved if they are to grasp the underlying engineering principles without complication. The book is therefore likely to appeal most to those students who are adept at mathematics and who do not require illustration of the principles with many practical examples.

The book consists of eleven chapters. Vector methods are introduced from the outset in order that problems in three dimensions may be discussed without involving complex mathematical expressions. As a consequence the student must develop a familiarity with vector algebra so that the various vector operations needed can be carried out without concern. Worked examples are included in the text as illustrations of applications but surprisingly no problems are included for the student to attempt alone to check understanding.

The book begins by expanding and generalizing the concepts presented by most A level applied mathematics courses. Vector analysis is introduced in chapter two. Operations in vectors are covered in some detail and the meanings of vector equivalents and vector quantities discussed. Kinematics and the equations of motion relative to a fixed and moving observer are included in chapter three. Chapter four deals with particle dynamics and Newton's laws of motion, and concludes with a discussion of the operator ∇ and the operations Del-dot and Del-cross.

Equilibrium of forces and moments are considered in chapter five using vector notation. The equations developed are used to solve some statically determinate beam, truss and pin-jolted frame problems. Matrix notation is introduced for solving sets of simultaneous equations.

The next four chapters deal with the concepts of continuum mechanics. Chapter six introduces stress tensors. Transformation to an alternative set of coordinates is covered and principal stresses, deviatric stresses and invariants defined. Application of Mohr's circular diagram for determining the stresses on an arbitrary plane is also included. Chapter seven presents the corresponding treatment for strain. Stress and strain (or strain rate) are related in chapter eight for Hookean solids and Newtonian fluids. The elastic constants for an isotropic material are derived and yield criteria briefly discussed. Chapter nine develops the equations of equilibrium and compatibility together with the concept of a stress function for an isotropic elastic solid.

Remaining chapters deal with particular topics. Centroids and second moments of area of cross sections, covered in chapter ten, are then used in chapter eleven to establish relations for the bending and twisting of long slender members.

The text is clearly laid out. A comprehensive list of symbols, which is not found in all books, is included and the SI system of units is carefully defined. In this system the basic unit of pressure (and stress) is N/m² but N/mm² is used throughout because it corresponds to the quantities experienced most frequently in everyday use.

G. A. Webster

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Mass spectrum

An Introduction to Mass Spectrometry
by J. H. Beynon and A. G. Brenton
University of Wales Press, £3.95
ISBN 0 7083 0810 4

The contents of this slim volume accurately reflect its title in providing an initiation into the mysteries of the practice and applications of this diverse subject. However, this concise undergraduate text is not suitable for the layman.

The development of mass spectrometry is charted over the past three-quarters of a century and is related to improvements in the associated areas of vacuum technology and electronics. The description of the instrumentation uses a refreshingly practical approach, with a minimum of mathematics. Equations are introduced in a context which emphasizes their relevance to the determination of operational constraints. Selection of material is excellent, and focuses attention on mainstream developments. Chapters on vacuum systems, ion production, mass analysis and ion detection provide a well-balanced guided tour of the components of modern mass spectrometers; and a final section highlights the wide variety of applications in chemistry, physics, geology and medicine.

With its economy of presentation and broadly based coverage, this general introduction is assured a valued place in the literature. It should satisfy the needs of most students and could act as a useful springboard to more specialized texts.

Although the diagrams are clear, it is unfortunate that in the printed equations the frequent use of lower case L (l) to signify length can be confused with the number one (1). There is an inconsequential error on page 53 where ^{22}Ne is stated to be monoisotopic. A more subtle error concerns figure 4.3 and its related text, which incorrectly states that a sector magnet has a focal plane passing through the apex of the magnetic field. However, these lapses will not trouble the novice and do not detract from the value of this excellent book.

R. D. Sedgwick

R. D. Sedgwick is senior lecturer in chemistry at the University of Manchester Institute of Science and Technology.

An updated and revised edition of Sir Peter Medawar's famous collection of essays, *The Uniqueness of the Individual*, has been published (with a new introduction) by Constable as a Dover paperback at £3.00.

Molecular framework

Structural Biomaterials
by Julian F. V. Vincent
Macmillan, £18.00 and £7.95
ISBN 0 333 26125 9 and 26126 7

Since the seventeenth century biologists have been trying to relate structure to function, but nowadays the emphasis is becoming rather too molecular. We have wandered a long way from the simple observation of intact organisms, such as Darwin's classic treatise on beak shape and feeding habit of Galapagos finches – surely one of the most far-reaching structure-function studies. We can now describe molecular structure and physicochemical properties of highly purified biological molecules, yet still the nagging question remains: how do these same molecules behave *in vivo*, when interspersed with water and other components? Biomaterials lend themselves particularly well to this problem of linking molecular work with whole tissue and whole organism behaviour, particularly when, as here, their properties are set clearly in a biological background, and related to the life-style of the organism.

Biomaterials like wood, bone, collagen, and so on, provide the structural framework without which multicellular life could not exist. Yet they are frequently overlooked in favour of more obviously "relevant" molecules like enzymes, hormone receptors and nucleic acids. This is partly because molecular biologists are more at home measuring binding constants and catalytic activity, than dealing with molecules that require an understanding of stress, strain, elasticity or viscosity. Terms like these, with which everyone is vaguely familiar, have precise physical definitions; but they would be difficult to find in a biology library.

This book should go a long way towards filling the communication gap between biology and physics in this area. It begins with the basic theory of elasticity and viscoelasticity, describing concepts like stress, strain, compliance and plasticity in simple mathematical terms which need little more than O level physics to understand. Chapters two and three relate these mechanical concepts to biomaterials, first proteins (for example, keratin, collagen and elastin) and then polysaccharides (for example, cellulose and hyaluronic acid). For the non-biologist, these chapters provide a clear account of macromolecular structure and conformation (with a few errors in amino acid and sugar formulae). The following chapter deals with pliant biomaterials: composites of proteinpolysaccharide-water found in whole tissues like sea-anemone mesoglea and locust intersegmental membrane. Then come the stiffer biomaterials formed by tanning (as in insect cuticle and wood) and, finally, biological ceramics (teeth, bone and eggshell).

Despite its rather weighty subject matter, the book is a delight to read, full of interesting anecdotes and examples from unexpected sources (*Journal of Materials Science, Journal of Molluscan Studies* and *Wireless World* feature in the references.) One slight criticism: the *reasons* for studying biomaterials science could have been more strongly emphasized. However, there are fascinating anecdotes about the unfortunate crashed airline pilot who died from a longitudinally split aorta (pathological defect causing isotropic behaviour), and about the role of elastic biomaterials in energy conservation during locomotion; and there was a nice allusion to the dire consequences should our bladders "go pop with the regularity that boilers do".

I can strongly recommend this book, as it shows how biologists could use mechanical properties as well as conventional methods to deduce molecular structure. Altogether it could let some much-needed fresh air into the study of molecular biology.

Anna Furth

Anna Furth is lecturer in biology at the Open University.

Cultural and Economic Reproduction in Education
A serious analysis of education's contradictory role in social reproduction must concern itself both historically and currently with the complex relations among the economic, political and cultural spheres of society. *Cultural and Economic Reproduction in Education* brings together people engaged in some of the most impressive recent work on these relations.
If a theory of education is to be helpful to the practising teacher, it must take the social context of learning into account. Colin Rogers in *A Social Psychology of Schooling* does just this, exploring the implications of two decades' detailed research. The central theme is the effect of teachers' expectations on the performance of pupils.
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BOOKS

Colourful science

Colour Vision in the Nineteenth Century: the Young-Helmholtz-Maxwell theory
by Paul D. Sherman
Adam Hilger, £35.00
ISBN 0 85274 376 9

Thomas Young

Two major theories of human colour vision arose during the nineteenth century. The trichromatic theory of Thomas Young and Hermann von Helmholtz postulates three parallel but separate hue channels, rather like the three images in a Technicolor camera; whereas the opponent process theory of Ewald Hering holds that our visual system encodes the world in terms of its redness-greenness; blueness-yellowness; and lightness-darkness.

The trichromatic theory is well-suited to dealing with practical problems of colour measurement. Because of its success, it came to dominate research in colour vision to such an extent that two decades ago this discipline was moribund. That would have been an apt time for Dr Sherman's book, which deals with only the first half of the nineteenth century, and is a celebration of the development of the trichromatic theory. But colour science has experienced an explosive growth during the past 20 years, and much has changed in that time. This is due in part to exotic techniques that have enabled us to measure the behaviour of single nerve cells in the visual centres of the brain; and in part to increased sophistication in the use of the traditional methods of sensory physiology and psychology.

While these new results clearly support Young's three-receptor hypothesis, they also show that much of the business of our visual system is conducted in a manner consonant with Hering's opponent-process theory. Despite this, Sherman completely omits the lively debate that took place a century ago between Hering and Helmholtz. (Hering is mentioned only in Professor Wright's introduction, where the typesetter gives us "Herring".) One suspects that this is because the venue of colour science moved at mid-century to the continent, and Dr Sherman is uncomfortable with foreign texts. For instance, he cites Ch. E. Wuensch, but his statement that no one investigated mixtures of spectral lights during the two centuries between Newton and Helmholtz suggests strongly that Sherman has not read him.

Many historians of science are Whiggish: they see science as a continuous advance towards our present state of knowledge. This is very much Sherman's style; with the notable exception of David Brewster, he discusses only the "successful" endeavours. (Poor Brewster! One might have hoped that during his bicentennial year he could have been spared being the whipping-boy of nineteenth-century science.) To his credit, Sherman deals fairly with that unhappy genius, H. G. Grassmann, and properly acknowledges the contributions to colour science of James Clerk Maxwell, who deserves to be linked eponymously with Young and Helmholtz, as Sherman does. Sherman's discussion, however, suggests that he does not understand the physiological significance of Clerk Maxwell's method: for example, his equating colour-matching functions with the responses of mechanisms in the eye is sure to irritate any reader who is familiar with colour vision.

Throughout his book, Sherman relies heavily upon his subjects' published work, which are generally available, and known to interested scientists. But this is only a part of the historian's lode; what, for example, of their letters and meetings? We know that Helmholtz visited Clerk Maxwell: surely these two giants did not merely discuss the weather. Since Sherman's commentary does not take us much further than the material that he abstracts, most readers will find it difficult to justify the outlay for this modest book.

But the real pity is that Dr Sherman does not deal with the less well-known, and often less accessible, second half of the nineteenth century. And when shall we see an authoritative account of colour vision in the eighteenth century, which harboured such shadowy figures as Gascoigne, Lucas, and Gautier?

C. R. Cavonius

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Distant stars

Galactic Astronomy: structure and kinematics, second edition
by Dimitri Mihalas and James Binney
Freeman, £19.50
ISBN 0 7167 1280 6

Only a few decades ago, well within living memory, there was still doubt among astronomers about the true nature of the Milky Way. Some, like Jeans, held that the so-called spiral nebulae were part of the Milky Way; we now know of course that they are galaxies in their own right, and that the Milky Way is our view of the galaxy that we belong to. Others, even Einstein himself, were deceived into thinking that the Universe comes to an end within a few thousand light years from the Sun because there is apparently a marked decrease in the space density of stars that are visible beyond that distance.

Nowadays, however, we have a much better understanding. The spiral galaxies show much evidence of the presence of dust, which obstructs the passage of light, among other things. The dust seems to be closely associated with the spiral arms, and when we see such a galaxy edge-on it is clear that the dust is strongly concentrated within the thin disk that contains the spiral arms. The same sort of dust gets in the way when we try to survey the contents of our own galaxy by means of optical or ultraviolet radiation. At a recent meeting, the director of the Anglo-Australian Observatory proudly showed evidence of the first optical record of a pair of starlike objects at the galactic centre, the dust that gets in the way causing the light to be dimmed by a factor of some 10 million or so, and thus necessitating the use of the very latest techniques for successful detection.

No wonder then that there were a lot of false starts in the exploration of this and other galaxies. There are many other problems in understanding even the basic facts. For example, any picture of another spiral galaxy will be dominated by the radiation from its brightest stars, in two ways: first, because they are disproportionately bright, and give out energy at a far greater rate, per unit mass, than the average star; and second, because they are hot enough to excite radiation from nearby regions of diffuse gas, and this light can easily be seen.

These bright stars, however, are relatively rare: in our own galaxy the Orion Nebula is the nearest impressive collection of hot stars and luminous gas and it is some 1500 light years away. This is about ten times further than the range at which stellar distances can be reliably determined, by parallax measurements. In fact the stars which can be accurately located all lie in a relatively small volume nearby, and do not form a representative sample of the important objects in the galaxy. The total picture of the galaxy and its contents must therefore be built up by a detailed and careful matching of the various pieces of information from many distinct and different investigations.

The astrophysicist, inspired by the many remarkable pictures of galaxies that he sees or hears about, is naturally keen to get on with the task of finding the physical truth that underlies it all. In their book (of almost 600 pages) Dimitri Mihalas and James Binney perform the very necessary task of setting out in some detail many of the steps that have to be taken before we can even interpret what we see. Indeed, they have performed their task extremely well; and in their very readable text, they show themselves to be extremely versatile, considering the range of subjects that they must handle. Since inevitably they cannot deal fully with most of the topics, they have constructed their bibliography in a very helpful way.

Although the book's second volume is scheduled to contain the theoretical explanations and all the intellectual fireworks, the reader needs first to be told the facts, and to be reminded of the very complex network of reasoning that underpins them. In doing so the authors have rendered a great service to all astronomers. I cannot imagine that this book will be superseded for many years to come.

F. D. Khan

F. D. Khan is professor of astronomy at the University of Manchester.

Algal assembly

The Ecology of Seaweeds
by F. E. Round
Cambridge University Press, £60.00
ISBN 0 521 22583 3

Algal communities, including the drifting myriads of phytoplankton and the benthic seaweeds, vary in size from those whose limits are the confines of a sand grain, to the majestic forests of giant kelp composed of plants as large as any trees on land. Algae are the dominant vegetation in lakes and oceans, forming the foundation of most aquatic food chains: they thrive in such unlikely places as soil, snow and hot springs; and they are widely utilized by man. Professor Round's lengthy book reflects the intensive research now being carried out on the algae and also the ecological importance of the group.

In a valiant attempt to do justice to such a diverse assemblage Professor Round leaves no stone unturned, no pool unplumbed. In addition to chapters covering obvious topics such as phytogeography, energy flow, nutrient cycling, eutrophication and pollution, there are also discussions of more esoteric and often neglected subjects such as palaeoecology and the algal contribution to sediments. Although some chapters are devoted solely to the phytoplankton and others to the benthos, most consider both groups at the same time. Such juxtaposition, together with frequent cross-referencing, nicely emphasizes parallel or contrasting phenomena.

Ironically, the commendable comprehensiveness of the book also gives rise to its greatest weakness. Those sections furthest from the author's interest sometimes display a tendency to become simply elaborate compilations of facts rather than critical syntheses of the information. Although overall, the balance between the various topics is good, some subjects are woefully underrepresented. For example, the detailed and interesting account of the seasonal behaviour and growth of phytoplankton contrasts markedly with the perfunctory treatment of the same aspects of seaweed ecology. Similarly, although grazing and competition are generally acknowledged to be major factors, often *the* major factors structuring benthic communities, less space is allocated to grazing of benthic macroalgae than to parasitism; indeed twice as many pages are devoted to the classification of algae. Competition between seaweeds fares even worse: it is scarcely mentioned in the text and is not even listed in the index. Other notable absentees from the index include culture, modelling, pathogens and utilization.

The quality of the writing is very uneven. Some sections are models of cogent explanation, whereas others suffer from over-elaborate sentences and a disconcerting tendency to divert the reader's attention mid-paragraph, sometimes to explore topics of debatable relevance. There is generous provision of tables and figures, although occasionally the text provides little justification for their inclusion. All the figures are clearly presented, although those illustrating diverse assemblages of algae would have benefited from some indication of relative sizes.

Professor Round's book represents a comprehensive review of algal ecology and does great credit to his broad interests and knowledge. However, his detailed treatment and lengthy bibliography will be of more interest to the specialist aquatic biologist rather than the undergraduate.

Trevor Norton

Trevor Norton is senior lecturer in botany at the University of Glasgow.

Temporal order

Real Time
by D. H. Mellor
Cambridge University Press, £17.50
ISBN 0 521 24133 2

The metaphysics of time has been the subject of much discussion in the recent philosophical literature. Unfortunately, most of this writing is addressed to a narrow professional audience and is more or less inaccessible to the outsider fascinated by the problems and looking for help. Hugh Mellor's splendid book discusses a central cluster of philosophical questions about time in a systematic and self-contained way: and, with only rare lapses, it is as clear and approachable as anyone could reasonably hope such a book to be.

Although those seeking a measured review of the literature will be disappointed, Mellor does offer something much more exciting: an extended argument in favour of one particular view of time. This view, though certainly not original to him, has rarely been defended with such verve and acumen. The key contention is that time is real but tense is not, a slogan that cognoscenti will have no trouble in decoding. For the uninitiated, however, a brief explanation is in order.

We locate events in time in two ways: we may say of an event that it is happening now, or has already happened, or will happen in the future (A); we may place an event as happening at the same time as another, or as occurring before or after another event (B). The A-characterization of a given event (that is, its tense) changes over time; an event is first future, then present, and then recedes into the increasingly remote past. By contrast, the B-characterizations of an event are forever fixed. If it is now the case that the death of Descartes precedes the birth of Kant, then those two events always stand in the same temporal relation.

The first question for the philosophy of time concerns the relation between the A- and B-characterizations of events. The issue may seem trifling, but it is given urgency by a notorious argument given in 1908 by McTaggart. This purports to show that tensed A-facts are irreducible to B-facts, are essential to time, yet cannot exist. McTaggart concludes that time is unreal – a result which unsurprisingly has not been well received. But Mellor holds that McTaggart was at least half right. For he defends McTaggart's proof that there are no genuine tensed facts, while arguing that the reality of time does not after all require tensed facts.

In denying tensed facts, Mellor is not absurdly saying that a statement like "Coe is now breasting the tape" cannot be true. He is claiming that what makes this tensed statement true is that it is produced at the same time as Coe breasts the tape. In other words, what makes this tensed statement true is a tenseless B-fact about the simultaneity of two events. Similarly, other tensed statements have tenseless truth-conditions.

This familiar idea has considerable attractions but it also raises a tangle of problems that have been thought to sink a tenseless view of time. The importance of Mellor's book lies in the way he tries to resolve these problems. Mellor argues, for example, in favour of the following claims. A tenseless universe is *not* (as often alleged) a universe without change. And our perception of temporal order can be invoked to distinguish temporal from spatial order. Further, a tenseless view can still account for our sense of the flow of time, and the felt indispensability of tensed judgments in describing how things are for us. Finally, we can still explain on the tenseless view our inability to perceive the future (the defence of this last claim turns on an argument against the possibility of backwards causation which also rules out time-travel).

The arguments for all these claims are forceful and ingenious. Whether or not they ultimately carry conviction, they should ensure that *Real Time* is now an indispensable starting point for anyone who wants to think seriously about time.

Peter Smith

Peter Smith is lecturer in philosophy at University College of Wales, Aberystwyth.

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BOOKS
LAW

Being in the right

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University of Chicago Press, £19.60
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Clarendon Press: Oxford University Press, £10.00
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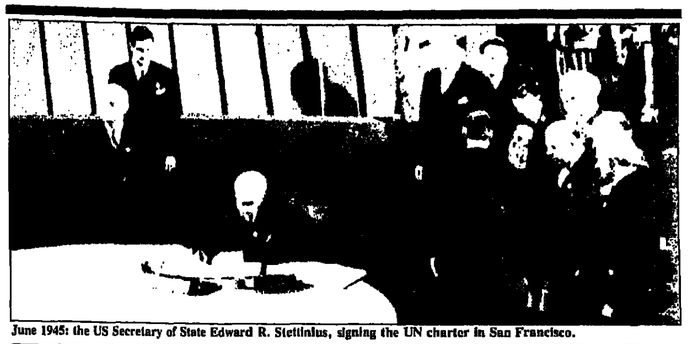

June 1945: the US Secretary of State Edward R. Stettinius, signing the UN charter in San Francisco.

Does law carry any weight at all in the jungle of world politics? Most people would probably say "very little". *Inter arma silent leges*. Yet it has been evident in the Falkland Islands dispute how anxious states are to appear – if not necessarily to be – on the right side as far as the law of the matter goes. Even when they say might is right, they disclose a preference for being right, if possible.

John Perkins wrote this book on the American experience of international law during a sabbatical leave from a law firm in Boston, Massachusetts, in 1978, which he spent in Oxford. His aim was to show that, so far from law and power in world affairs being opposites, they work hand in hand, or could do. In other words, for the United States a "commitment to law", (to use his favourite phrase) could be good business, or rather could make foreign policy more effective than it is. When America has blundered in foreign policy, he argues, as in Vietnam, it was because it departed from international law, in the form, for instance, of the Geneva agreements of 1954.

The argument has a double basis: first, that America (and the same is true of the western alliance as a whole) has interests broadly the same as those protected by the international legal system and, second, that in the worldwide campaign to recruit support for one's foreign policy having law on one's side is a powerful advantage. As for the former, Perkins reviews the close concordance between any American interests and those sanctified by international law: the balance of power, depending as it does on the political independence of the different weights in the balance; national self-determination, enshrined in the United States Charter and hallowed in American traditions; freedom of access to natural resources, which he almost argues, citing the oil embargo of 1973, states have a legal duty to make available to other countries. And so on.

As for law being an instrument for winning world support, Perkins contends that "a foreign policy not firmly grounded in law will not command the energy and sacrifice of the people". That, he goes on, was the real lesson of Vietnam. Moreover, the greater the political importance of the third world, the more the West stands to gain by identifying with legal enactments which guarantee third world interests: self-determination, anti-colonialism, anti-racism, and the rest. There may be problems there, for instance, over the call for a new international economic order, the law concerning the seabed, and so on. On the other hand, the West should be able to win a race in legal respectability with the Soviet Union, or any other communist state, hands down.

The most controversial section of the book, part three, is a plea for stronger American support for adjudication as a means for the settlement of international disputes. It succumbs to the weakness of American lawyers for drafting new charters for world peace. This takes the form of a declaration by which the United States would undertake to submit its disputes with other states to a new, voluntary tribunal, appointed by, but separate from, the existing world court at The Hague. The argument for a new court really lets the cat out of the bag: it is that the new body would apply not merely existing law, but "those widely accepted principles not yet established as binding law that have the character of law and are appropriate for acceptance as law". In other words, international equity. And the world court would never swallow that camel. Nor, more importantly, would the US Congress, which has strained so much at the gnat of subscribing to the present court.

Perkins's general thesis, however, is worth pondering: it is a corrective to the common assumption that international law is always a restraint, or drag, on national interest, whereas in fact law is usually designed to protect and consolidate national interest. The trouble is that, if Americans learn how to use law to serve their interests, us suggested here, will they continue to respect it in cases when it cannot be so used? And what will happen to the credit they win for law-abidingness if they do not?

Professor Brownlie, formerly of the LSE, now Chichele Professor of International Law at Oxford, in this reprint of his doctoral thesis, first published in 1963, is not much concerned with the twilight zone between law and foreign policy. His book is a history, at times somewhat laboured, but never lacking in scholarship, of the law on the use of force by states. He concentrates on the nineteenth century, when legal controls affected the how of force, rather than the whether, and the age of the League and the United Nations, when force, except in individual and collective self-defence, has become illegal, though the instruments of force are more thick on the ground (and at sea and in the air) than ever before.

Professor Brownlie is highly conservative in interpreting the restrictions on national sovereignty implicit in present-day international law, a world apart from Perkins's legal adventurism. The distance between British and American styles in legal philosophy could hardly be better portrayed.

F. S. Northedge

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Benson's failings

Law in the Balance: legal services in the eighties
edited by Philip A. Thomas
Martin Robertson, £18.50 and £6.50
ISBN 0 85520 444 3 and 482 6

Twenty years ago hardly anyone questioned the machinery of justice in this country, or compared it with any other. In the late 1960s, however, came a crop of studies, which culminated in 1976 in the setting up of the Benson Committee to look into legal services. When the Royal Commission reported in 1979, the profession welcomed its findings; most other commentators, however, have been virulently critical – and rightly so, for it is in every way a disappointing document.

This collection of essays is the first detailed criticism of Benson. Its 10 contributors concentrate on different problem areas associated with the provision of legal services (accountability, legal education, law centres, advertising, restrictive practices) but each goes beyond a critique of particular recommendations in the report to ask, and sometimes to answer, questions (sociological, analytical and economic) about the operation of law in society and the part which lawyers and para-professionals play in meeting, or failing to meet, the needs of consumers and potential consumers.

Although there is not complete consensus among the contributors the collection is remarkably integrated. The authors seem to agree, for example, that no major changes in the operation of the legal system can be expected as a result of Benson (Philip Lewis senses a change in "mood rather than direction"). There is general agreement also that the section in the report on law centres, particularly its attack on pro-active community work, is its "nadir" (Lewis). More important is the contributors' consistent claim that the report protects the interests of the legal profession. As Lewis writes, the deliberations within the report concentrate on the organization of the profession, not in the contribution it makes, or fails to make, to society. Ian Willock, comparing Benson with Hughes (its Scottish counterpart), makes much the same point, noting that whereas Benson sees legal services merely as what the legal profession does, the Hughes report emphasizes in a greater extent the interests of the recipients. It is not surprising then, as Phil Fennell argues, that Benson should have wished to preserve professional autonomy. Harry Arthurs even goes so far as to describe the report as a "very lawyerly document". Few inquiries into a profession can have so adequately reflected the interests and views of that profession.

The report is deficient in so many respects that even a book of the quality of this one cannot deal adequately with all of them. That it is thoroughly parochial is a point made trenchantly by Harry Arthurs and William Twining. That the Commission's grasp of economic questions is lamentably weak is commented upon by Martin Partington and Twining. But perhaps Benson's greatest failing is its lack of adequate theory. The editor Philip Thomas credits it with some theory (*viz* functionalism) and Lewis refers to its "rights-oriented" approach, but all contributors would, I think, agree that the theory is under-developed and analysis in the report do not stand up to critical scrutiny. As Colin Campbell pertinently notes, insufficient attention has been given even to such basic questions as the meaning of "need" in the term "unmet legal need" and to what is meant by "legal services". He is surely accurate when he claims that Benson misunderstood the rationale for community work by law centres because it did not define legal services.

Campbell's criticisms are an indictment of law academics, and Lewis is right in a sense to describe Benson as the "Commission we deserve". When legal scholarship fails to grasp the nettle, what can we expect of a Royal Commission? It is clear that none of the contributors (in retrospect, at least) expected much of Benson. So although the Commission was not, as Abel notes, the creation of the legal profession, "it may have become its creature". The report will clearly dominate official thinking for some considerable time.

The task of those who want change is to present alternative modes of argument and this requires attention both to the context of legal services, requiring the construction of theories about the operation of law in society and the place of lawyers, and to the concepts used in this thinking. *Law in the Balance* points the way. It is a collection which deserves to be widely read. Indeed, I suspect it will be read long after Benson is (deservedly) forgotten.

M. D. A. Freeman

M. D. A. Freeman is reader in English law at University College London.

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BOOKS

LAW

Roman lawyers

Emperors and Lawyers
by Tony Honoré
Duckworth, £35.00
ISBN 0 7156 1449 5
The Making of the Civil Law
by Alan Watson
Harvard University Press, £15.75
ISBN 0 674 54310 6

If we look at the major legal systems around us today, and at the Roman system from which some of them are derived, one feature which they share is the presence of a staff of professional specialists who make decisions, formulate and interpret rules, and generally provide the means of access to legal processes.

Weber treated this specialization as a crucial characteristic of what he regarded as developed legal systems; and we might well see this element as the one which marks off our societies from the pre-legal world. It is arguably just as important as the arrival of centralized, rule-based adjudication; although, as Maine recognized early on (*Ancient Law*, 1861), a "juristical oligarchy" seems to appear much later than adjudication in evolutionary terms. Both of these books are concerned, from quite different angles, with this phenomenon of legal specialization.

In *Emperors and Lawyers* Professor Honoré concentrates on a small part of the Roman legal system as it operated in the third century. Alongside his judicial duties, the emperor also acted as a legal consultant providing terse written opinions on points of law when petitioned by individuals. Many of these "private rescripts" survive. Were they the work of the emperors themselves, or that of professional lawyers in government service? Studying surviving rescripts for the period 193-305 AD, Honoré hesitates to make a "final judgment on the respective influence of lawyers and emperors on the *content* (italics supplied) of the law as reflected in private rescripts", but is satisfied that "the form and expression of the law is a professional not an imperial function."

He reaches this conclusion through a close analysis of the language in which the rescripts are expressed. Finding that periods of stylistic continuity are readily discernible, but that changes do not necessarily coincide with changes of emperor, he concludes that an official, the secretary *a libellis*, must have been responsible for their composition: "it is only on the supposition that he was by and large responsible for drafting them that we could explain a uniformity of style which often extends over several years yet does not coincide with reigns." While gaps in the picture remain, Honoré is further able to isolate the work of at least twenty different office-holders over the period investigated. The names of most of them remain unknown, but he identifies a few (Papinian, Ulpian and Hermogenianus) as distinguished lawyers already known to us in other contexts.

The analytical techniques followed by Honoré are those displayed in his earlier work *Tribonian*, which Duckworth have recently issued in paperback. He looks closely at the length, logical structure and conceptual framework of rescripts in addition to syntax and vocabulary. In part this is a matter of laborious counting and comparison (here it is a help to the lay reader to find much of the detail in footnotes and in tables at the back of the book); but it is also a matter of instinct, knack, "a feeling for the general colour of a man's style as well as for detailed idiosyncracies." It is possible that Honoré's specialist colleagues may argue over the safety of his methods, even over his conclusions; but to the outsider the care he seems to have taken is impressive and the results entirely convincing.

Legal records of one kind and another provide an important source, often the only written one available to us, in trying to find out what people did and thought in the past. Their value is by no means limited to informing us about legal matters, as the rapidly developing and very exciting work of historians (such as Le Roy Ladurie in France; Hay, Macfarlane and Thompson over here) reveals. Honoré's work is not like theirs; he writes as a lawyer looking at another legal system. Even so, what he has to say here of Roman governmental arrangements will surely command interest outside his own discipline.

Professor Watson covers more ground, ranging at large over Roman law and the civil law systems of western Europe and Latin America. His aim is ambitious: "to contribute to the understanding of the forces that cause legal change." Starting from an assumption that there are important differences between common law and civil law systems, he sets out "to account for the existence and development of the features that are distinctive of the civil law."

In attempting to do so he deploys a lot of learning and pursues his inquiries in interesting directions; but it seems to me that his great project is never really carried through. There is something a bit limp in the general conclusion that these distinctive features have more to do with a shared "legal tradition" than the social and economic conditions within which legal systems are located. The idea of a "legal tradition" is never fully elaborated; and I cannot help feeling doubtful about a law-centred study which rejects a formative influence for the social and economic sphere without trying to locate the legal systems considered within these wider orders. This is not to deny the important influence which specialists have upon legal development; indeed I think he would have got nearer to his objective if he had confined himself more narrowly to examining how the training, role and work-habits of legal professionals have evolved in civil law systems.

Simon Roberts

Simon Roberts is reader in law at the London School of Economics.

Special pleading

Between Conviction and Sentence: the process of mitigation
by Joanna Shapland
Routledge & Kegan Paul, £10.50.
ISBN 0 7100 0945 3
Conviction: law, the state and the construction of justice
by Doreen J. McBarnet
Macmillan, £20.00
ISBN 0 333 25536 4

Until recently, the central notion of the criminal system has been that guilt is determined after a battle between prosecution and defence, under the supervision of an independent judge, in which evidence is presented to an impartial jury for decision. Although this image has been reinforced by traditional ideology, it has only a passing resemblance to reality: the overwhelming majority of defendants charged with serious criminal offences plead guilty and do not, in consequence, have a trial in the conventional sense. It is appropriate, therefore, that these two books should in different ways concentrate on the guilty plea process.

Joanna Shapland's book represents the first systematic examination of the process of mitigation after conviction. She does this by analysing a sample of 100 cases (mostly guilty pleas) drawn from both the magistrates' court and the Crown Court; she has conducted interviews with the participants, and has asked barristers to construct a speech in mitigation using a fictitious brief. As Shapland acknowledges, the book is best seen as exploratory, raising questions and hypotheses, rather than as providing a definitive account of an important stage in the criminal process.

Dr Shapland finds that the conduct of mitigation is similar to accounts in everyday life – the offender seeks to make good the wrong he has caused to the victim. But there are major differences between everyday life and courtroom encounters (there is, for example, no offender-victim contact in court and the offender's status has been downgraded by the conviction). The author found that mitigation by a legal representative has developed beyond everyday accounts into a form which satisfies the requirements of each particular court. If her argument is correct, however, mitigation is a procedure with only a superficial gloss of credibility. When faced with the same set of facts barristers have diverse opinions as to what topics should be covered when interviewing clients, as to what mitigating factors should be included in the speech, or as to what sentence recommendation to make to the court. It seems that barristers are heavily dependent upon information provided by others. In particular, they rely upon judges to drop hints (in elliptical language) about the sentence they have in mind.

Between Conviction and Sentence is readable and relatively free of jargon, though some of the analysis and tables have got out of hand – table 5.2, for example, takes up six pages. My main criticism is that the general discussion on mitigation needs to be located in a wider context.

One thing Doreen McBarnet's book cannot be said to lack is width and context. Her concern is with the organization and ideology of the criminal process, and her basic argument is that the criminal system is structured to produce convictions. The enforcers and practitioners are successful in this objective but not, as some have suggested, by virtue of routinely breaking the law. She argues that the assumption that the law embodies protections and rights in unfounded: the law does not set a standard of legality from which the police (and others) depart; it is structured in such a way that police behaviour is actually within the law. "If", McBarnet argues, "we bring due process down from the dizzy heights of abstraction and subject it to empirical scrutiny, the conclusion must be that due process is *for* crime control".

The thesis is therefore an important one, but McBarnet does not provide the detailed analysis and argument necessary to support it. The problem is not merely that the research sample is small, wholly Scottish in origin, or that some matters discussed have been overtaken by events. The problem is that her argument is no farther advanced than when it was first presented in an article in 1976, and that she has settled instead for polemic, albeit of a vigorous and lively quality.

One of the main objections to McBarnet's thesis is that by assuming that all legal rules are for crime control, she fails to distinguish between rules which are claimed to give rights (but do not do so) and rules which do confer rights (but are under-enforced, unenforced or unenforceable). Equally faulty is her assumption that legal rhetoric itself is unproblematic and unidirectional. Another drawback is her loose use of language, ideas and concepts, so that, for example, "justice" is simply a taken-for-granted notion and models of the criminal system are put forward as descriptions of law enforcement enabling McBarnet to attack as a false dichotomy what are in truth definitionally distinct concepts. It is unfortunate also that a book which lawyers should read and which argues for a closer study of the law should itself display a poor understanding of such basic matters as *mens rea* and burden of proof.

Michael McConville

Michael McConville is lecturer in law at the University of Birmingham.

Colin Tapper's *Computer Law* is now in its second edition. Since it was first published in 1978, computer use has increased dramatically, perhaps doubled; Colin Tapper charts the main features of the law's response. His method is to take a number of specific cases on which decisions have been made, and to show how common law has been applied in them, his aim being to draw attention to the particular problems associated with computers that the legal process has brought to light. *Computer Law* is published by Longman at £10.50.

BOOKS

LAW

Strictly speaking

Speech and Law in a Free Society
By Franklyn S. Haiman
University of Chicago Press, £15.75
ISBN 0 226 31213 5

Among constitutional free speech guarantees the American First Amendment is remarkable in that on its face it is unrestrained and makes no allowance for the limitations on uninhibited communication that may be called for by the need to protect other personal rights.

The obvious countervailing rights are those to reputation, privacy, fair trials, decency, civil order and security. Hence the problem of accommodating within the free speech guarantee the punishment or prevention of defamatory, intrusive, legally contemptuous, obscene, incitatory and treacherous speech. Constitutional "free speech" notoriously has to *exclude* many things that consist literally of speech or oral communication; and matters are further complicated by the fact that it also has to *include* a number of things that do not consist in such speech acts (for example books, films, leaflets, banners, pickets and demonstrations).

As a professor of communication studies, Franklyn Haiman is well placed to ponder and elucidate this difficulty. Appropriately enough he arranges the material under four headings – communication about other people, communication to other people, communication and social order, and government involvement in the communication marketplace. In some ways this is not a very convenient scheme since a number of the problems – defamation, incitement and public order, for example – might be thought to fall under several of these headings. Still, they are not intended to solve any analytical problems and do not get in the way of the exposition.

The introduction opens with a daring cross-cultural suggestion that physical environment may play a part in explaining degrees of national attachment to free expression. A people who, like the inhabitants of the United States, occupy a large wide open land mass, may on this view be more expressive, while those more tightly packed on small islands may accept more inhibitions on their interpersonal communications. This sounds like an interesting but partial insight that does not entirely explain the relative degree to which freedom of expression flourishes in, say, the United Kingdom, China, Japan and the USSR. But the thesis is not pursued.

Free speech theorists in the United States have struggled to propound a formula that will assist courts and critics in the task of delimiting the boundaries of constitutionally protected speech. In one area or another illumination has been seen in such ideas as "clear and present danger" or "time, manner and place regulation", or "political and private speech" as aids to the legislative regulation of speech and expression. Professor Thomas Emerson ten or twelve years ago in a major work of exposition *The System of Free Expression* laid emphasis on the action/expression distinction, holding that non-verbal acts whose primary ingredient was expression rather than action should be protected by the First Amendment. The application of this distinction in crucial marginal cases involves a good deal of intuitive judgment. Professor Haiman is critical of it and offers instead a utilitarian tariff.

In applying this he would tolerate non-verbal acts perceived by their initiators as expressive of political or personal beliefs, provided that they do no more than a certain amount of damage or inflict no more than minor and remediable inconvenience on the community. (Thus draft-card or flag burning, or traffic obstruction may be classed as protected symbolic expression, but not knee-capping, kidnapping or bomb-planting.) A question remains however whether the community has a duty to give full immunity to any class of politically motivated crime – especially since there are other constitutional formulae which can accommodate acceptable non-verbal expressive activities (freedom of assembly, for example, and the right of association).

There are several areas in which Professor Haiman is critical of existing American law. Three are defamation, the regulation of picketing, and criminal and racial incitement. In the first area he favours the abandonment of the normal remedies for defamation, given the existence of a right-to-reply law, exercisable against newspapers. In relation to secondary picketing he is prepared to accept some restriction, in the context of industrial disputes, as a quid pro quo for trade union immunities from the ambit of anti-trust legislation. But he perceives that the central issue here is not the primary/secondary distinction but that between peaceful and intimidatory picketing (a point not satisfactorily resolved in recent British industrial legislation).

In relation to incitement to illegal action he is prepared (unlike most recent liberal theorists) to protect the right to publish murder manuals, books providing instructions for the manufacture of explosives or poisons, and publications urging criminal or racial violence, believing that the existing law is blind to the distinction between "triggering" action as a gun is triggered and the offering of arguments, however reprehensible, to human beings who have free will to argue back or to reject argument.

The central emphasis placed on free will here may be thought by some to be excessive. That men are responsible for their own criminal actions does not rule out the possibility that others may have a joint responsibility for them especially if an audience that is free to reject a suggestion in fact does not reject it and the suggestion is sufficiently urgent and proximate to the crime committed.

This is none the less a solid book, full of detailed, clearly organized, non-technical arguments that can stand beside Professor Emerson's earlier *System of Free Expression*. It is an odd thing that in the United Kingdom no comparable book exists and that no one, since Mill in 1859, has tried to set out the principles of free expression. It may be one reason why British legislators often continue to act as if there were none.

Geoffrey Marshall

Geoffrey Marshall is a fellow of Queen's College, Oxford.

Patients' rights

Legal Issues in Medicine
edited by Sheila A. M. McLean
Gower, £13.50
ISBN 0 566 00428 3

In recent years the medical profession has witnessed a proliferation of new techniques and resources in, for example, the area of human reproduction. This has led to a parallel increase in a variety of ethical, sociological and potential legal problems in the practice of medicine. This book, made up of 15 essays by diverse contributors from the disciplines of medicine, law and philosophy, amounts to a provocative analysis of these storm centres of discussion.

For the sake of convenience, the contributions can be classified according to their legal, philosophical or medical emphasis, although each has implications for the other fields. Of the predominantly legal contributions there are essays on medical products liability, the problem of consent, professional liability (both legal and medical), expert witnesses, artificial insemination, ante-natal injuries, sterilization and the mentally "abnormal" offender. Of these only a sample can be discussed here.

Problems do arise relating to the compensation of victims injured by defective medical products. Although the use of contaminated blood or diseased organs is discussed, the real difficulty centres on the use of drugs resulting in problems such as the subsequent discovery of harmful side-effects, vaccine damage and pre-natal injury. Does the patient or next-of-kin have to show negligence or is liability strict? A. D. M. Forte persuasively enumerates the attraction of a strict liability approach in this area.

Should the identity of the donor be disclosed in the case of artificial insemination? The contributor on this subject, D. J. Cusine, considers both sides to this contentious issue. On balance, there would seem to be a good case for arguing that the identity of the donor should be recorded; just as the law gives adopted children the right to information about origins, so it ought to be available to AID children. Unfortunately, no such legal requirement exists. The alternative argument that puts the emphasis on the existence of "social or psychological" parents who provide a stability for the child which is more relevant than accurate details for the child about its parentage, does not seem convincing.

The essay on consent, by Sheila McLean and A. J. McKay, insists that the real consent of the patient is required before a doctor may undertake treatment. It considers how consent can be demonstrated, who may competently give it and what amounts to a real or informed consent. Throughout emphasis is correctly placed on the patient's right to self-determination. As to remedies, problems with both the assault-based action and negligence are cogently set out. The conclusion is that the negligence action could have more relevance in underlining the predominant weight to be given to the rights of the patient rather than seeing decision-making as the prerogative of the doctor.

The problems surrounding sterilization have come to a head in the recent case of *Devi* where damages were awarded to a woman who had been sterilized during the course of some other minor operation when it was realized her womb was ruptured. As Sheila McLean and T. D. Campbell point out, the decision does reinforce the idea of a human right to retain an existing capacity to procreate unless there is a voluntary decision to alienate the right. Finally, although sympathetic with the views in the article on the mentally "abnormal" offender, a fuller account of the non-penal powers that could be used to control those prone to automatism is necessary.

The main philosophical contribution, which of course has both legal and scientific repercussions, is by R. S. Downie and concerns collective responsibility in health care. It is argued that any acceptable health care does require a dual concept of collective responsibility. First, any doctor, nurse or other health worker is a representative of a profession imbued with the profession's rights, duties and values. It is important to describe any such health worker not only as an individual but as an agent of his profession as a whole. Secondly, collective responsibility signifies a responsibility which has become nationalized, as it were; it is shared ultimately by all of us, derived from our common membership of society.

The conclusion is clear. Health and welfare are interconnected so that doctor and social worker can and ought to be "ancillary workers to the other, rather than mutually antagonistic". The plea that the compartmentalization of the aims of the doctor, the social worker and others ought to cease and that responsibility for "wholeness" should be widely scattered, seems eminently sensible but I wonder if it is ever attainable. Perhaps an approximation towards the ideal is better than nothing at all.

On the whole, the book has avoided the danger of overwhelming the reader with technical jargon and esoteric concepts; this is a readable contribution to the literature, bristling with ideas and controversy.

Howard Davies

Howard Davies is lecturer in law at the University of Leeds.

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BOOKS

LAW

Union rulings

The Closed Shop
by Charles Hanson, Sheila Jackson and Douglas Miller
Gower, £12.50
ISBN 0 566 00414 3

Striking a Balance? Employment law after the 1980 Act
by Roy Lewis and Bob Simpson
Martin Robertson, £15.00 and £4.95
ISBN 0 85520 442 7 and 443 5

One of the most difficult issues which arises in industrial relations is the balance to be struck between the collective interests of the workforce and the "rights" of the individual worker. This problem is, of course, central to the question of the attitude which the law should take towards the closed shop. In their book, Hanson, Jackson and Miller present a survey of the law relating to the closed shop in Britain, the USA and the Federal Republic of Germany. The result of their research provides valuable food for thought.

In the USA, for example, the pre-entry closed shop is outlawed while a post-entry closed shop is lawful (though only in so far as employees in a bargaining unit must make a contribution towards the costs incurred by a trade union in the collective bargaining process: there is no obligation on a worker to become a member of the union). In addition, each state is entitled to enact "right to work" statutes which enable individual workers to avoid even this infringement of their liberty. West Germany goes even farther and prohibits any collective agreements which differentiate in favour of workers who are members of a trade union, so that there is little incentive on employees to join.

On the other hand, in Britain before the Employment Act 1980, the law encouraged employers to enter into closed shop agreements by providing that the dismissal of an employee who was not a member of the union was *prima facie* fair unless his refusal to join was the result of religious objections to membership of any trade union whatsoever. This position has, of course, been radically altered by the 1980 Act which not only extends the religious exception to cover genuine objections "on grounds of conscience or other deeply-held personal conviction to being a member of any trade union whatsoever or of a particular trade union" but makes it almost impossible for lawful closed shops to arise in the future by insisting that they be approved by 80 per cent of those entitled to vote in a ballot. Moreover, the authors approve the strictures meted out by the European Court of Human Rights in the recent case of *Young, James and Webster v United Kingdom* that the pre-1980 position amounted to an infringement of the European Convention of Human Rights.

But the important point which emerges from this book is that whatever the legal position, where a trade union is recognized for the purposes of collective bargaining and has sufficient industrial strength, closed shops will arise and accordingly they are still to be found in the USA and West Germany. When the closed shop was outlawed in the United Kingdom by the Industrial Relations Act 1971, research has shown that the number of closed shops in fact increased. In these circumstances, legislation inhibiting the closed shop is misconceived as it only undermines the development of effective collective bargaining structures. This seems a case where individual rights must give way to collective interests – always provided, of course, that the trade unions in fact operate as the democratic bodies they purport to be.

The closed shop provisions of the Employment Act 1980 are also acutely analysed by Lewis and Simpson in their books. They endeavour to find how far the Act has redressed the balance of power between employers and trade unions. They see the Act as a full-scale attack on the power of labour and consider, for example, the closed shop provisions and the new statutory rights in relation to trade union membership to be intended not to protect individual liberty but to undermine a trade union's ability to maintain discipline in industrial conflict by the threat of loss of union membership and consequently loss of employment.

As is to be expected of a work which the publishers describe as "authoritative", the legal analysis of the 1980 Act is excellent, if difficult for a reader without a legal background. But it is clear that the authors believe that the industrial relations problems facing this country are entirely due to the crisis facing western capitalism and consequently that any legal limitations on trade union power is unjustifiable. But those of us who reject the implications of this thesis can surely argue that while it is desirable that trade unions should be able freely to engage in industrial action against their employer, they should not be able lawfully to wield their power against society as a whole. Moreover, the authors' contention that the judiciary cannot be relied upon to apply the law impartially in an industrial relations context has been seriously undermined in a series of recent decisions, culminating in *Hadmor Productions Ltd v Hamilton*, where the House of Lords refused to depart from the literal meaning of labour law legislation in order to limit trade unionists' freedom to take legitimate industrial action.

J. M. Thomson

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The power of courts

Courts: a comparative and political analysis
by Martin Shapiro
University of Chicago Press, £12.00
ISBN 0 226 75042 6

Four characteristics are conventionally attributed to the courts: they are staffed by judges who are independent of both legislature and executive; in ruling on disputes the judge applies pre-existing legal norms, rather than norms created simply for the purpose; the proceedings are adversary in nature; the outcome is a clear-cut decision in which one party is ruled to have been in the right and the other in the wrong.

In this book Martin Shapiro (who is professor of law at the University of California, Berkeley) puts forward the thesis that, judged by these standards, courts are often "uncourt-like". In preference, he offers the following perspectives on that institution: courts are not independent, but rather part of the political regime; they often create their own legal norms; they often combine elements of mediation with the standard role of adjudication; they offer appeal, not (as is commonly supposed) for the vindication of individual rights, but as a device for concentrating power in central regimes.

In order to substantiate these claims Shapiro tests each of them against the legal system whose example is most likely to falsify it. For example, he selects the English common law as the system most likely to falsify his claims about judicial independence. The civil law, with its tradition of the all-embracing code, is chosen as the system most likely to be at odds with his claims concerning judicial creativity. Imperial China, with its Confucian emphasis on mediation, is traditionally viewed as having consistently avoided winner-take-all solutions. It is selected, therefore, as the system most likely to refute the author's third proposition. Finally, Islamic law, often seen as having little or no appellate dimension, is chosen for a general discussion of the problems of appeal.

This wide-sweeping survey is prefaced by an interesting chapter ("The Prototype of Courts") which discusses mediation, arbitration, and related phenomena. Here, one feels, are topics (for example, the possibilities for mediation within the common law system) which need more extensive examination. The ample descriptive material in the main body of the work, as the footnotes testify, is culled from a wide variety of secondary sources. In fairness to the author, it would have required truly outstanding linguistic ability to have been otherwise. However, in one respect the book has fallen victim to the comparativist's hazard of gaining an inaccurate impression of an unfamiliar legal system. An uncomfortable number of statements made about English law are misleading or (in some cases) plainly inaccurate.

Judging the book by its stated purpose, I have considerable misgivings about it. The author's approach owes much – though the debt is unacknowledged – to Sir Karl Popper's theory of the scientific method. A simple and well-known example encapsulates that theory. The proposition that "all swans are white" cannot be verified by any number of recorded observations of white swans. One single instance of a black swan, however, is sufficient to refute the proposition. Empirical generalizations, therefore, can be falsified but never finally verified. The ceaseless search for the black swan, for the confrontation between stated scientific law and inconsistent experimental data, is the hallmark of advance in scientific research.

But the propositions that Shapiro is seeking to falsify are not purely empirical questions. His propositions require, in addition, a great deal of conceptual clarification. What is it (for example) for a judge to create new law rather than to apply pre-existing norms? At what point does the mediation element in a hearing rise to such a pitch that the proceedings may no longer be termed adversary in nature?

A good instance is provided by the concept of 'judicial independence. What we mean by that concept is that judges hold office during good behaviour and that they are (and should be) allowed to rule on particular suits without fear of interference from the government. Shapiro's observation of cases where particular rules enunciated by the courts have been reversed by legislation is entirely consistent with the ideal of judicial independence. So too are his observations that in England judicial review of administrative action is exiguous – if indeed it is – and judicial review of legislation non-existent.

Only when these conceptual questions have been clarified can we begin to recognize the types of evidence which might corroborate or refute Shapiro's propositions.

Joseph Jaconelli

Joseph Jaconelli is senior lecturer in law at the University of Manchester.

NEW Journal

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BOOKS

LAW

Turning to European justice

The Foundations of European Community Law: an introduction to the constitutional and administrative law of the European Community
by T. C. Hartley
Clarendon Press: Oxford University Press, £20.00 and £13.95
ISBN 0 19 876081 7 and 876082 5

A characteristic of the current generation of books on European Community law is that their authors feel able to assume some basic knowledge of the institutional structure of the Communities, and to concentrate on specific topics. Mr Hartley's book, as its subtitle indicates, is concerned with the constitutional and administrative law of the Communities. Description of the institutional structure is limited to a brief introductory section, two thirds of which is devoted to the European Court of Justice, the main actor in the rest of the book.

Mr Hartley's aim is to analyse the effectiveness of Community law and the procedures for ensuring that the Community itself abides by it. Of the four substantive parts of his book the first two, which are entitled respectively "The Community legal system" and "Community law and the member states", relate to the first of those areas of interest, while the second two, on "judicial review" and "Community liability" relate to the second.

Obviously, the material does not always fall neatly into these categories. So, for example, the system of references from national courts to the European Court for preliminary rulings is quite rightly treated not only under the heading of Community law and the member states, as the method of cooperation between national courts and the European Court, but also in the section on judicial review, as a method of indirect challenge to Community acts.

In the context of the Community legal system, Mr Hartley recognizes that the Acts issued by the Community institutions have not in practice been limited to those enumerated in the Treaties – as the United Kingdom has found out in a series of fisheries cases. These cases are however mentioned here only in the context of the enforcement of Community law against member states. He also devotes considerable space to a consideration of the effects of international agreements on the powers of the Communities, and of the powers of the Communities to enter into such agreements. Prominence is also given to the role of the European Court in the development of general principles of Community law, principles of particular relevance to the exercise of judicial control over the acts of the Community institutions.

In his section on Community law and the member states, Mr Hartley is boldly prepared to argue that the direct effect of provisions of Community law – that is, the concept under which clear and unconditional provisions of Community law may be invoked by individuals before national courts even against their member state) may now be regarded as the norm rather than the exception. On the other hand, in the context of judicial review, he does not disguise the difficulties facing an individual who seeks directly to obtain the annulment of a Community act as a result of the European Court's restrictive interpretation of the requirement that such an individual must prove that the act is of direct and individual concern to him. Mr Hartley puts forward the suggestion for reform that any genuine interest should be sufficient to found an action. However, he may go beyond the existing case-law in suggesting that the European Court has in fact developed a general doctrine that any statement by a Community institution as to the action it intends to take in given circumstances is a reviewable act provided it is definite and unequivocal", at least where the action it intends to take is negative and the information to that effect is conveyed by a letter from an official.

The book concludes with an unusually detailed analysis of Community liability, as might be expected from Mr Hartley's earlier writing on the subject. He is not afraid to devote space to the specific provisions of the European coal and steel community Treaty (a Treaty conveniently forgotten by many writers) with regard to liability for acts intended to have legal effects, and his discussion of the cases decided under the EEC Treaty is both clear and critical, rightly pointing out that analogies with national rules restricting the liability of public authorities are hardly apposite given that the democratic element is largely absent in the Community legislative process.

Mr Hartley's book is largely intended for lawyers and law students, but it is none the less generally readable. Although modestly described as an introduction to its subject matter, it is written critically, and even if the reader does not agree with all the author's conclusions, he will find them stimulating.

J. A. Usher

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Teaming, lading and looting

The Control of Commercial Fraud
by L. H. Leigh
Heinemann Educational, £16.50
ISBN 0 435 82519 4

About ten years ago Penguin published a book with the engaging title, "Do You Sincerely Want to be Rich?". My answer to that is yes, it would be rather nice, but I am clearly in the wrong trade: Her Majesty's Inspector of Taxes seems to know precisely how little I earn. Not so in the world which is the subject of this new book by Dr Leigh.

American estimates in 1978 apparently put losses through business crime there at $40b a year. For Britain country-wide estimates are not available, but Dr Leigh gives a table of fraud investigations by the Metropolitan and City Police (leaving aside the provinces) which shows that in that same year the cash at risk in the 473 investigations was nearly £200m, and the Inland Revenue recovered about £37 million by way of tax arrears, interest and penalties.

However, as the author emphasizes, the importance of the fact that fraud is widespread lies not in these rather problematic figures but in the way that fraud threatens the integrity and efficiency of commercial institutions. In this respect there are some economic crimes which are more serious than others.

An advanced industrial society can prosper even though it tolerates cartels, but it cannot prosper if its financial institutions commonly misrepresent their solvency, operate on the margins of liquidity and are fatally vulnerable to general economic downturns. Directors of companies may, with the aid of spurious economic arguments, challenge the validity of criminal laws against insider trading, but hardly of those which strike at fraudulent misrepresentation.

This book does not attempt to give a total picture of the control of fraud. The breadth of the title is cut down by the first sentence of the preface, which makes it clear that the author's concern is 'control "through the medium of the criminal process". This is a major curtailment – it leaves no room, for example, to discuss the concept of white-collar crime, the characteristics of offenders, public perceptions of economic crimes, or even, at least in any great depth, the infernally difficult mix of moral and commercial issues in the definition of fraudulent conduct. It nevertheless still leaves a big subject to cover, in four main parts, of about seventy pages each, on the nature of fraud, the substantive criminal law, the institutions of control, and prosecution and trial. The books ends with some pages on suggestions for reform. However, the reader is left wanting more, since some of the topics, particularly in the second half, seem to deserve deeper treatment than the author has space to give them.

It is very much the vogue these days for law teachers to break away from the mere exposition of rules and the technical analysis of court decisions and statutory provisions. So Dr Leigh, an academic lawyer, has sought "to place the law in the context of fraudulent practices engaged in in Britain", and at the same time to give a broad picture of the relevant law which would be comprehensible to the accountant or the sociologist who approached the subject from his different angle. For the law teacher and student, here is a much fuller and better account of the law of fraud than is available in the standard criminal law texts.

Within the limitations which he has set for himself Dr Leigh has done a valuable job. Generally the exposition is clear and the style straightforward, making comprehensible what are often complex and technical provisions. The book is commendably free of legal jargon, though the reader is introduced to the fascinating language of the City, where there are "concert parties" ("a phrase which refers not to the London Mozart Players, but to coalitions which build up shareholdings covertly with a view to facilitating a takeover, or to gaining control through a later swoop on the market"), teaming and lading, window-dressing, wash-trading, long-firm fraud, rigging, looting, and cube-cutting.

The treatment, though, is less colourful than it might be: the malpractices of some fairly startling rogues are rather stonily described, and the author prefers to give a dry account even of the Revenue's famous dawn raids in the Rossminster case. However, compared with the average textbook which confronts the student of commercial law, this one will probably be thought a rare excitement.

For student, teacher, practitioner and concerned citizen alike the importance of the work will lie in its analysis, suggestions for reform, and exposure of inadequacies in present arrangements. Dr Leigh is particularly critical of the pattern and prospects of proper investigation and trial. In this respect it is a pity he fell over the trip-wire set out for most of those who write law books – the legislature's nasty habit of changing the law after the manuscript has been sent to the publisher. He tried to keep ahead of the game by writing as though the Companies Bill 1980 had become an Act, even though his cut-off point was 1 June 1980, only to be brought down by the passage of the Companies Act 1981, which did more than the 1980 Act to affect the control of fraud but about which he is only able to speculate briefly in a short postscript. We know from his writings elsewhere that if he had been able to comment in detail on the new legislation, his account would have been even more critical of the present law.

John Rear

Professor Rear is head of the faculty of professional studies at Newcastle upon Tyne Polytechnic.

Citizenship

Ivor Stanbrook, a practising barrister as well as a member of the House of Commons Select Committee on the British Nationality Bill, is the author of *British Nationality: the new law* (Clement Books, £9.50). In this book he sets out the qualifications required for the three new categories of British citizenship and discusses the transitional arrangements made for Commonwealth citizens, British Protected Persons, and others not falling into the three main groups. He also provides sections on the provisions of the act and on individual case problems, presented in a question-and-answer format. The full text of the Act is appended.

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NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

Chairs

Dr J. R. R. Borden has been appointed, from October 1 to a chair in bibliographical studies in the department of English studies in the University of Stirling. Dr Borden is at present director of the Institute of Bibliography and Textual Criticism at the University of Leeds.

Appointments

Universities

London
Clerk of the court of University: Peter Holwell. Deputy Clerk of the Court of the University: J. S. Roderick (Head of the Legal and General Division: P. S. Griffiths.

Strathclyde
Librarian-designate: Albert Harrison. Readers: Joseph C. Barbenel and John H. Evans (bioengineering); George Fleming, Alan McGown and John M. Townson (civil engineering); James H. Johnson (architecture and building science); Samuel V. Kerr (thermodynamics and mechanics of fluids); Richard A. Pethrick (pure and applied chemistry); Brian J. B. Wood (bioscience and biotechnology).

Course news

Literature and Culture of Ireland, a two weeks intensive course, July 6-22 at University College Galway. Wide-ranging survey and analysis of the literature of Ireland both in Irish and English and its relationship to the Gaelic culture and tradition. Fee £110. Ir ($160).

Irish Language, August 2-27. A four-week intensive course at University College, Galway provides a basic knowledge of spoken Irish and a general introduction to Irish linguistic culture. Designed for those with no previous knowledge of Irish. The college is also offering, simultaneously, a course for those who have some knowledge of the spoken language. £190 Ir ($320). Accommodation from £10.00 per day, full board. A limited number of scholarships for both courses available (for full time university students or equivalent 18-30 years of age). Inquiries about these courses to be sent to Brendan Mulkere, Irish Cultural Activities London, 7 King Henry's Road, NW3.

Rod Tuach's photograph "Carroniskey 1978" was included in an exhibition at University College, Dublin recently. The show, organized by the university's photographic society and called Out of the Shadows, included 104 prints from 47 Irish artists.

Forthcoming Events

'Intercultural Understanding Through Education: Aims, Rationale and Methods in the USA', a one-day seminar on Thursday, May 27 at 5.00 pm., at the Department of Education, University of Southampton. Speaker Professor David E. Washburn, Director, Multicultural Education Center, Bloomsbury State College, Pennsylvania, USA.

First National Conference and Exhibition on Computers in Personnel will be held at the Royal Lancaster Hotel, London W1 from June 22 – 24. Parry Rogers, director, personnel and Europe, The Plessey Company Ltd will be conference chairman and will give an opening address on 'The Significance of Computers in Personnel'. Information from Terry Page and Sue Beadle, Institute of Manpower Studies, Mantell Building, University of Sussex.

• • •

The Primary Communications Research Centre at the University of Leicester is holding a one-day workshop on June 21 at the BBC Radio Times Hulton Picture Library, entitled Pictorial Communication: Theory and Practice. Details from Elizabeth Shaw, Education Officer, Primary Communications Research Centre, University of Leicester University Road, Leicester LS1 7RH.

• • •

ASME Conference – Continuity in Medical Education – June 7, 1982. The conference will discuss continuity in medical education. The format of the conference will be of free discussion between participants; discussion papers on relevant topics will be pre-circulated, including the teaching of obstetrics by Professor Callum Macnaughton, practical skills by Professor Hugh Dudley, prescribing by Dr Andrew Herxheimer, and the behavioural sciences by Mrs Mildred Blaxter. Held at the Royal College of Physicians, Regents Park, London. Registration forms available from Maureen Gyle, ASME, 150b Perth Road, Dundee, DD1 4EA.

Grants

Aberdeen
Biochemistry – Professor H. N. Keir and Dr H. M. Wallace – £30,475 from MRC for research on the role of polyamine oxidase in the regulation of cell growth in normal and transformed mammalian cells in culture.
Bio-medical physics and bio-engineering – Professor J. Mallard and Drs P. P. Dendy and M. A. Foster – £31,150 from MRC for assessment of the factors controlling NMR T_1 values of tissues, both normal and pathological.
Chemistry – Dr M. D. Ingram – £43,363 from SERC for research on improved solid electrolytes in sodium sulphur batteries; – Dr G. G. Cameron – £10,277 from the Ministry of Defence for investigation of synthesis on new organophosphones.
Education – Professor J. D. Nisbet – £28,235 from the Scottish Education Department for learning strategies in the upper primary and early years of the secondary school.
Engineering – Dr J. A. McGeough – £78,053 from SERC for research on production of dies and moulds by electro-chemical arc machining.
Medicine – Dr G. R. D. Catto – £34,862 from the Scottish Hospitals Endowments Research Trust for investigation of the role of the major histo-compatibility complex in the rejection and enhancement of renal allografts and in certain HLA linked diseases.

King's College, London
Anatomy – Professor K. E. Webster – £36,246 from MRC for research in somatosensory pathways in the rat.
Mechanical engineering – Professor S. W. E. Earles – £41,350 from SERC to support research in the effects of ion implantation of the durability of ball and roller bearings; Professor S. W. E. Earles – £27,000 from Shell U.K. Ltd to support research in diesel engine combustion.
Education – G. J. Whitty and Professor A. D. Edwards – £39,809 from SSRC to support research in the state and private education: a study of the Assisted Places Policy.

Queen Elizabeth College
Biochemistry – Professor D. Exley – £34,398 from ARC to support research in determination of hormones at the stomole and sub-stomole level; – Professor D. Exley – £40,057 from MRC to support research in substrate inhibited enzyme immunoassay; – Professor D. Exley – £22,500 from the Ministry of Agriculture for research in general immunoassay method to detect trichothecenes.
Biochemistry – Dr A. Darbre – £10,390 from Ministry of Defence to support research in investigation of amine metabolism in man during diving, motion sickness and in other stressful situations.

Open University programmes May 22 to May 28

Saturday May 22

BBC1
6.35 Management and the school. Knoxtley Fields Part I: My Door is Always Open (S333); prog 3)
6.60 An ageing population. Widowhood (P252; prog 3)
7.15 Philosophical problems. Wittgenstein and the Quest for Meaning (A313; prog 5)
7.40 Modern art from 1848 to the present: styles and social implications. Images of the City (A351; prog 5)
8.05 Curriculum evaluation and assessment in educational institutions. Searching for Meaning (E364; prog 2)
8.50 Art and environment. Dance Without Steps (TAD292; prog 7)

BBC2
6.55 Policies, people and administration. The Conference (D336; prog 7)
8.00 An introduction to calculus. $x \to \frac{1}{x}$ Area for Revision (M3281; prog 7)
7.15* Introduction to pure mathematics. Fourier Coefficients (M281; prog 13)
7.40 Social work, community work and society. Who Represents Whom? (DE206; prog 12)
8.05 Technology foundation course. UK Power (T101; prog 10)
8.30* Arts foundation course. Moral Responsibility (A101; prog 13)
8.55 Language in use. Language Acquisition (E263; prog 4)
9.20 Work in the family. The Gap's Getting Wider and Wider (P235; prog 1)
9.40 Mass communication and society. The Power of the Audience (D301; prog 4)
10.10* Organic chemistry. Chemical Reactions (S246; prog 7)
10.35* Science and belief: from Darwin to Einstein. Einstein's Belief (A381; prog 4)
11.00* Mathematical models and methods. Maths Methods: Projectiles (M3T204; prog 15)
11.25* Genetics. Genetical inheritance in Paramecium (S299; prog 7)
11.50* An introduction to psychology. Your Full Attention Please? (D262; prog 4)
12.15* Computer-based information systems. OCL – Data Modelling (M352; prog 4)
12.40 Quantum theory and atomic structure. Solutions of Schrodinger's Wave Equation (SM151; prog 5)
13.05* Personality and learning. Cognitive Styles (E201; prog 7)
13.30 Social psychology. You Don't Fool Me (D305; prog 3)
13.55* Reading development. Writing Together (PE231; prog 4)
14.20* Language development. What Do You Mean? (PE232; prog 5)
14.45* Instrumentation. Position Transducers and Counting (T291; prog 3)
15.10 The earth: structure, composition and evolution. Clues to Minerals (S237; prog 6)

RADIO 3 (VHF)
6.55* Biochemistry and molecular biology. Allostery (S322; prog 10)
8.15* Risk. 'Crying Half a Wolf' (U201; prog 5)
8.50* Decision making in Britain. The NFU and Established 'Cosy Relationships' (D283; prog 14)
9.35 Materials under stress. The Origins of Fracture Mechanics (T351; prog 3)
9.15* Biology: form and function. The Shape of Philosophy (A104; prog 13)
7.55* Science foundation course. Elements in the Basement (S101; prog 8)
22.20 Open Forum 14
23.40* Partial differential equations of applied mathematics. Tutorial (M331; prog 4)
24.00 Elements of Music. Harmonizing a Tune (1) (A241; prog 7)
00.20* Mechanics and applied calculus. Mechanics Tutorial (M3T282; prog 3)

Sunday May 23

BBC1
8.10 History of architecture and design 1890–1939. Hans Scharoun (A305; prog 16)
8.40 Britain's defence spend. The Passers Among Typical Jews (AD208; prog 1)
7.15 Systems modelling. A Model of Punctuality (T241; prog 4)
7.40 Urban change and conflict. City Centre Developments (D102; prog 4)
8.30 Microeconomics. Producing the Goods (D222; prog 4)

BBC2
6.20* Images and information. The Third Dimension (S1291; prog 9)
8.50 Graphs, networks and design. The National Grid (TM361; prog 7)
7.15 Geology. Granite and Plutonic Association (S23; prog 7)
7.40 The nature of chemistry. Transition Metals – Strong Field Ligands (S304; prog 15)
8.05 Biochemistry and molecular biology. Enzymes in Industry (S322; prog 7)
8.30* Science foundation course. Space to Think – Time to Learn: A Portrait of Summer (S101; prog 35)
8.55 Social sciences foundation course. Pictures of Politics (D102; prog 14)
9.20 Mathematics foundation course. Behaviour of Functions (M101; prog 12)
9.45 Modelling by mathematics. Modelling Stock Control (TM281; prog 12)
10.10* Materials processing. Any Old Copper (T352; prog 10)
10.35 Control of technology. Nuclear Opposition in the USA 2: Direct Action (T361; prog 4)
11.00 Biology: form and function. Pattern in Development: Cell Movement (S202; prog 14)
11.25 Computing and computers. Computing in Community Health (M328; prog 5)
11.50 Oceanography. Hydrothermal Plumes (S334; prog 7)
12.15 Complex analysis. Power Series (M332; prog 4)
12.40 Physiology of cells and organisms. Mitosis (S231; prog 7)
13.05 Surface and sedimentary processes: case studies in earth science. Changing Sea Levels – Upper Jurassic of Dorset (S335; prog 8)
13.30* Discovering physics. Lightening Does Strike Twice (S271; prog 8)

RADIO 3 (VHF)
9.55 The control of education in Britain. School Courses 3: Humanity: Policy and Pressure Groups (E222; prog 4)
9.15 Seventeenth century England: a changing culture 1618–1699. Politics (A201; prog 13)
9.35* Science and belief: from Darwin to Einstein. Science and Culture (A381; prog 7)
8.55* Personality and learning. Kate and Richard (E201; prog 13)
7.15 Social science foundation course: The Autonomy of the State (D102; prog 7)
7.35 Technology foundation course. National Power (T101; prog 8)

RADIO 4 (VHF)
7.35* The Enlightenment. The Oeuvre Episode (A204; prog 14)

RADIO 5 (VHF)
23.40* Management and the school. Deputy Heads: Do Primary Schools Need Them (E322; prog 3)
24.00 Rome: The Augustan Age. Patrons and Poets – the Augustan Age (A207; prog 7)
00.35* Instrumentation. Second Order Response (T291; prog 4)
00.40 Schooling and society. The Case of William Tyndale Part 1 (E202; prog 7)
Art in Italy 1400–1500. The Del Monte Passion Chapel (A352; prog 5)

Monday May 24

BBC1
6.40 The Enlightenment. Diderot at Baron D'Holbach's (A204; prog 8)
7.05 Mathematical models and methods. Maths Methods: Newton's Third Law (M3T204; prog 12)
7.30 The nineteenth century novel and its legacy. Middlemarch (A312; prog 7)

BBC2
6.40* Mathematics foundation course: Behaviour of Functions (M101; prog 13)
7.05* Technology foundation course. UK power (T101; prog 8)
7.30 Digital computers. Computing at Stockholt Gas (M351; prog 4)
7.55 Management and the school. Knoxtley Fields Part II: My Door is Always Open (Again) (S333; prog 3)
8.20 Research methods in education and the social sciences. Experiment (D303; prog 3)
8.45* Man's religious quest. A Most Dishonest Woman (AD206; prog 10)
8.50* World politics. The Role of Interest Groups (D23; prog 5)
22.20 Arts foundation course. What the Tortoise Said to Achilles (A101; prog 14)
23.40* Technology foundation course. National Power (T101; prog 8)
24.00 Oceanography. Chemists and the Oceans (S334; prog 8)
00.20* Social psychology. Conversation with Erik Erikson Programme 1 (D305; prog 4)

RADIO 4 (VHF)
22.30 The rise of modernism in music. Berg's "Wozzeck" (A306; prog 7)

Tuesday May 25

BBC1
6.40 Seventeenth Century England: a changing culture 1618–1699. Cosmology Before Newton (A203; prog 7)
7.05 Research in education. Goodbye White Coat (E241; prog 4)
7.30 Food production systems. Novel Proteins (T273; prog 4)

BBC2
6.40* Systems organization: the management of computing. The computer, Computers and the Unions (T245; prog 4)
7.05 Science foundation course. Elements Organizes – The Periodic Table (S101; prog 13)
7.30* The earth's physical resources. Mining – A Case Study in Ireland Part 1: Exploration (S266; prog 5)
8.40 An ageing population. Widowhood (P252; prog 3)

RADIO 3 (VHF)
6.55 Elements of Music. Harmonizing a Tune (1) (A241; prog 7).
8.15* Management and the school. Deputy Heads: Do Primary Schools Need Them? (E322; prog 3)
8.35 Thought and reality: central themes in Wittgenstein's philosophy. Language, Truth and Logic (A402; prog 7)
8.20* Environmental control and public health. Effluents from food processing and brewing (PT272; prog 6)
23.40* Art and environment. Oral Culture (TAD292; prog 7)
24.00 History of architecture and design 1890–1939. Berthold Lubetkin: Art, Ideology and Revolution (A305; prog 14)

RADIO 4 (VHF)
7.35* Complex analysis. Taylor Series (M332; prog 3)
23.20 Genetics. Cytoplasmic Inheritance (S299; prog 7)

Wednesday May 26

BBC1
6.40* Oceanography. Hydrothermal Plumes (S334; prog 7)
7.05 Evolution. The Flesh on the Bones (S364; prog 7)
7.30 Biology, brain and behaviour. Moving muscles (SD288; prog 7)

BBC2
6.40 Introduction to pure mathematics. Cycles (M203; prog 4)
7.05 Arts foundation course. "Jumpers" (A101; prog 14)
7.30 Inquiry. The Spill Screen (U202; prog 7)
8.20 Contemporary issues in education. "William Tyndale" (E200; prog 10)
8.45 Mathematics foundation course. Behaviour of Functions (M101; prog 13)
9.10 Philosophical problems. Wittgenstein and the Quest for Meaning (A313; prog 5)

RADIO 3 (VHF)
6.55* Composing and computers (M229; prog 2)
7.15* Elements of Music. Harmonizing in music. Berg's "Wozzeck" (A306; prog 7)
23.20* Social science foundation course. The Autonomy of the State (D102; prog 7)
23.40 Social development: Science and Literature (PE206; prog 4)
24.00 Economics and education policy. Education and the Employment of Women (ED222; prog 2)
00.20 Humanities and education policy. Education and the Employment of Women (ED222; prog 2)
00.40* Mathematical models and methods. Maths Methods: Equations (M3T204; prog 13)
Man's religious quest. "A Most Dishonest Woman" (AD206; prog 10)

RADIO 4 (VHF)
23.30 Seventeenth century England: a changing culture 1618–1699. Hobbes (A203; prog 7)
23.50 Personality and learning. The British hatband Scale (E201; prog 14)

Thursday May 27

BBC1
6.40* An introduction to psychology. Your Full Attention, Please? (D262; prog 4)
7.05* Graphs, networks and design. The National Grid (TM361; prog 7)
7.30 Engineering mechanics: thermofluids and energy. Thermex 2000 (T233; prog 4)

BBC2
6.40* The earth: structure, composition and evolution. Melts to Minerals (S237; prog 6)
7.05* Social science foundation course. Pictures of Politics (D102; prog 14)
7.30* Surface and sedimentary processes: case studies in earth science. Changing Sea Levels – Upper Jurassic of Dorset (S335; prog 8)
17.10* Science and architecture and design 1890–1939. Hans Scharoun' (A305; prog 16)

RADIO 3 (VHF)
6.55 Greece 478–336 BC. Euripides: Innovator and Traditionalist (A292; prog 7)
6.15 The digital computer. Computing by Software and Hardware (TM221; prog 7)
6.35 An introduction to calculus. Scaling and Approximation (M3281; prog 4)
23.30* Mathematics foundation course. Foundation Maths 7 (M101; prog 14)
23.40* Materials under stress. The Origins of Fracture Mechanics (T351; prog 3)
24.00 Science and society. The Case of William Tyndale Part 1 (E202; prog 7)
00.20 Man's religious quest. Images of the Divine (AD206; prog 15)
00.40 Decision making in Britain. The Student Exercise (D203; prog 15)

RADIO 4 (VHF)
23.20 Fundamentals of human geography. Dunmow: Management and Land Use Planning (D206; prog 5)
23.50 Fundamentals of statistical Inference Functions of Random Samples (M341; prog 4)

Friday May 28

BBC1
6.30* Urban change and conflict. City Centre Development (D202; prog 4)
7.20* Modern art from 1848 to the present: styles and social implications. Images of the City (A351; prog 5)

BBC2
6.40* Biology: form and function. Patterns in Development – Cell Movement (S207; prog 14)
7.05* Geology. Granite and Plutonic Association (S23; prog 7)
7.30* Quantum theory and atomic structure. Solutions to Schrodinger's Wave Equation (SM151; prog 5)
17.10* Man's religious quest. The Passover Among Typical Jews (AD208; prog 1)
17.35 Weekend Outlook – 15
00.30 Great Britain 1700–1830: sources and historiography. Parliament Elections: A Research Project (A401; prog 6)

RADIO 3 (VHF)
6.55* Economics and education policy. Education and the Employment of Women (ED222; prog 2)
6.15* Humanities and education policy. Education and Second Order Response (T291; prog 4)
6.35* Art in Italy 1400–1500. The Del Monte Passion Chapel (A352; prog 5)
23.30 Organic chemistry. CMA 4) Organic chemistry (S256; prog 7)
23.40* The control of education in Britain. School Courses in Britain: Policy Pressure Groups (E222; prog 4)
24.00* Complex analysis. Taylor Series (M332; prog 3)
00.40* An introduction to calculus. Scaling and Approximation (M3283; prog 4)
History of architecture and design 1890–1939. Berthold Lubetkin: Art, Ideology and Revolution (A305; prog 14)

* repeated programmes

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Universities

THE AUSTRALIAN NATIONAL UNIVERSITY

Applications are invited from suitably qualified persons for appointment to the following positions:

Research School of Social Sciences
DEMOGRAPHIC ADVISOR TO UNIVERSITY POPULATION RESEARCH CENTRE IN INDONESIA

The Department of Demography of The Australian National University is recruiting a Research Fellow-Senior Research Fellow to work as an adviser in Indonesia under a United Nations Fund for Population Activities funded project of assistance. The appointee would serve as a member on secondment to the Director of the Population Studies Centre, assisting him with the design, implementation and reporting of three major migration studies to be conducted under this project. The person selected for this position should be a graduate demographer specifically holding a PhD degree, and if possible should be familiar with population and development issues in Indonesia. The person should be able to conduct interviews in the Indonesian language and be prepared to undertake serious language study while in Indonesia. The appointment will be for one year in the first instance.
The successful applicant will be expected to take up the appointment by 1 September 1982. Further information from Dr. T. Hull, Coordinator, International Population Dynamics Program.
Closing date: 11 June 1981.

DEMOGRAPHIC ADVISOR TO THE POPULATION STUDIES CENTRE OF THE NATIONAL INSTITUTE FOR SOCIAL AND ECONOMIC RESEARCH (LEKNAS), JAKARTA

The Department of Demography of The Australian National University is recruiting a Research Fellow-Senior Research Fellow to work as an adviser in Indonesia under a United Nations Fund for Population Activities funded project of assistance. The appointee would serve as a member on secondment to the Director of the Population Studies Centre, assisting him with the design, implementation and reporting of three major migration studies to be conducted under this project. The person selected for this position should be a graduate demographer specifically holding a PhD degree, and if possible should be familiar with population and development issues in Indonesia. The person should be able to conduct interviews in the Indonesian language and be prepared to undertake serious language study while in Indonesia. The appointment will be for one year in the first instance.
The successful applicant will be expected to take up the appointment by 1 September 1982. Further information from Dr. T. Hull, Coordinator, International Population Dynamics Program.
Closing date: 11 June 1981.

FACULTY OF SCIENCE
Department of Biochemistry
TEMPORARY LECTURER IN BIOCHEMISTRY (MICROBIOLOGY)

The successful applicant will be required to make a substantial contribution to the teaching of Microbial Biochemistry to a two semester course for third year science students. The research interests of the appointee should be compatible with one or more of the areas of microbiology established in the Department: molecular biology of eukaryotic microbes, membrane biochemistry, structure, replication and pathogenesis, chemotherapy, microbial metabolism. The appointment is for 3 years only from 1 January 1983 at the Lecturer level.
Closing date: 28 June 1982.

CONDITIONS OF APPOINTMENT
Salary will be in accordance with qualifications and experience within the ranges: Senior Lecturer A$28,283–A$34,228 pa; Research Fellow and Temporary Lecturer A$20,983–A$27,638 pa. (Current exchange rate: A$1 = UK 58p).
Fringe benefits accorded to indonesia will be eligible for various allowances including one of 15% of salary. Assistance with removal expenses, temporary accommodation etc, depending on the level of appointment, piece of residence in addition to other circumstances. These are subject to negotiation and decision before appointments are finalised.
Reasonable appointment expenses are paid. Superannuation benefits are available for those who are eligible to contribute. The University reserves the right not to make an appointment to any of the above positions. Write as appropriate to any of the above applicants should write to the Registrar of the University, PO Box 4, Canberra, ACT 2600, Australia, or to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, for further particulars before submitting applications.

THE OPEN UNIVERSITY

PART-TIME TUTORIAL AND COUNSELLING STAFF

Applications are invited for part-time tutorial and counselling staff for the 1983 academic year. Appointments will be made in the latter part of 1982 prior to the next academic year which starts in February.
In 1983 the University will be offering 133 courses in six faculties: Arts, Educational Studies, Mathematics, Science, Social Sciences and Technology. In addition the Centre for Continuing Education will be offering the first in a series of short courses in Management starting in September 1983. The courses are based on an integrated structure of correspondence assignments, radio and television broadcasts and a regionally organized tutorial and counselling system. The time needed for University duties varies according to individual contracts, but on average will occupy perhaps one evening per week or its equivalent for most of the year. Appointment of new staff will in the first instance be tenable for one year.
Vacancies for Course Tutors, Tutor-counsellors and Associate Student Counsellors will exist in all regions of the country. Applicants should be graduates or graduate equivalent. Recent teaching experience in further, adult or higher education is highly desirable. Existing members of the University's part-time tutorial and counselling staff will be sent application forms during May as a matter of course. The number of appointments of new staff may, therefore, be somewhat restricted and will vary between courses and regions.
To obtain application forms and further particulars send a POSTCARD to the Tutors Office (TH), The Open University, P.O. Box 82, Walton Hall, Milton Keynes, MK7 6AU.
To ensure that your application is considered for the 1983 academic year forms should be submitted to one of the University's Regional Offices by Friday, 18th June, 1982.

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY
Department of Accountancy and Business Studies

Senior Technical Instructor/ Lecturer/Senior Lecturer (Commercial Computing)

Applications are invited for the above positions. There are two positions available, and appointments may be made at any of the three levels mentioned above. Appointment at the Lecturer/Senior Lecturer levels will require appropriate tertiary qualifications.
Appointment at the senior level will mean the appointee leading the Commmercial Computing Section. A thorough knowledge of COBOL and BASIC PLUS along with commercial systems experience is highly desirable, as is previous teaching experience.
The University is about to install a Prime 550 to complement its present system of 2 x PDP 11/34's. The Department operates its own DEC data system, running an integrated accounting package and ORU processing for teaching purposes.

Salary.		
	Senior Lecturer	K18,660
	Lecturer	K14,950–K18,030
	Senior Technical Instructor	K14,950–K18,030
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Initial contract period of approximately three years, other benefits include a gratuity equal to 24% taxed at 2% rate, appointment, repatriation and leave fares for staff member and family, settling-in and out allowances, six weeks paid leave per year, education fares and assistance towards school fees, free housing. Salary continuation and medical benefit schemes available.
Detailed applications (two copies) with curriculum vitae, together with the names and addresses of three referees, should be received by The Registrar, Papua New Guinea University of Technology, PO Box 793, Lae, Papua New Guinea, by 15 June 1982. Applicants resident in the United Kingdom should also send one copy to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

SOUTHAMPTON UNIVERSITY OF
FACULTY OF MEDICINE

Lecturer in Nursing Studies (two posts)

Applications are invited from registered Nurses with good clinical experience for two new challenging posts as Lecturer in Nursing Studies. Closing dates should preferably have a higher degree in relevant subject and/or experience in Nursing Research. The posts are jointly funded by the General Nursing Council and the Southampton and South West Hampshire Area Health Authority and applicants should be registered Nurse Tutor qualification.
The Lecturer will be appointed by the University and will have responsibilities to teach, as appropriate, to the new B.N. degree course which will start in 1983, the first Integrated Course which will begin in the Wessex area, within the medical ward.
The salary is on the Lecturer scale £6,970 – £10,800, rising to £8,070 – £12,600 and one increment is payable immediately.
Further details of these posts are available from the University Secretary, Southampton, to whom letters of application, including a curriculum vitae, should be sent by 4 June 1982. Informal discussions and visits can be arranged by contacting Miss Lyn Prangnell, Senior Lecturer in Nursing Studies (Degree Course), Faculty of Medicine, Southampton General Hospital, Tel: Southampton (0703) 777574, extension 2826. Please quote reference: 2826. H1

NEW ZEALAND
THE UNIVERSITY OF AUCKLAND

SCHOOL OF MEDICINE

Chemical Pathology – Associate Professorship or Senior Lectureship

Candidates must hold a specialist qualification registered in New Zealand together with a recognised postgraduate qualification (for example FRCPA or MD) and must have had experience in Nursing Research. The posts are jointly funded by the General Nursing Council and the Southampton and South West Hampshire Area Health Authority and applicants should be registered Nurse Tutor qualification.
The Lecturer will be appointed by the University and will have responsibilities to teach, as appropriate, to the new B.N. degree course which will start in 1983, the first Integrated Course which will begin in the Wessex area, within the medical ward.
The salary is on the Lecturer scale £6,970 – £10,800, rising to £8,070 – £12,600 and one increment is payable immediately.
Further details of these posts are available from the University Secretary, Southampton, to whom letters of application, including a curriculum vitae, should be sent by 4 June 1982. Informal discussions and visits can be arranged by contacting Miss Lyn Prangnell, Senior Lecturer in Nursing Studies (Degree Course), Faculty of Medicine, Southampton General Hospital, Tel: Southampton (0703) 777574, extension 2826. Please quote reference: 2826. H1

NEWCASTLE UPON TYNE
UNIVERSITY OF

DEPARTMENT OF FINE ART

SCHOOL OF PAINTING – DEMONSTRATOR

SCHOOL OF SCULPTURE AND PRINTMAKING – DEMONSTRATOR

Applications are invited from men and women for the above posts, tenable in the Department of Fine Art, Newcastle upon Tyne, from 1 October 1982 for a period of four years.
Salary will be at an appropriate point on the scale £5,670 – £7,290 per annum, with a possible £7,700 p.a. according to qualifications and experience.
Further particulars may be obtained from the Deputy Registrar (F.P.), The Registrar's Office, Kings Gate, Newcastle upon Tyne, NE1 7RU, to whom applications (3 copies), together with the names and addresses of three referees, should be sent by 15 June 1982. Applicants resident in the United Kingdom should also send one copy to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.
Applications should be accompanied by a photographic and/or slides of recent work and the names and addresses of three referees, should be lodged not later than 14th June 1982. Please quote reference: THES. H1

UNIVERSITY OF EAST ANGLIA
Norwich

Temporary LECTURER IN DRAMA

Required in the School of English and American Studies. Candidates should have a degree in drama or in literature (or other relevant discipline), together with further practical training or experience in the theatre. The post will be a twelve month appointment commencing on 1 September or 1 October 1982. Salary will be in the range £6,070 to £7,700 per annum, plus USS benefits.
Applications (three copies), giving names of three persons to whom reference may be made, should be lodged with the Establishment Officer, University of East Anglia, Norwich NR4 7TJ (telephone: 0603-56161 ext. 2128) from whom further particulars may be obtained, not later than 11 June 1982. No forms of application are issued.

university college of swansea

Lecturer in Education

Applications are invited for the vacancy of LECTURER IN EDUCATION with special responsibility for courses in methods of teaching CHEMISTRY AND PHYSICS. Applicants should possess a good Honours Degree in Chemistry and/or Physics and should be trained teachers with recent experience in schools. Possession of a higher degree would be an advantage.
The appointment, which will date from 1 October, 1982 will be on the scale £6,070 – £10,800 per annum together with USS/USDPS benefits.

Senior Research Assistant

Applications are invited for the vacancy of Senior Research Assistant in the Department of Metallurgy and Materials Technology. The successful applicant will be required to work in the area of spray casting.
The appointment, which will be for up to one year in the first instance, will be from the second date that can be arranged, and the salary will be up to £8,880 per annum plus USS/USDPS benefits.
Further particulars and application forms (2 copies) for both posts may be obtained from the Personnel Office, University College of Swansea, Singleton Park, Swansea SA2 8PP, to whom completed forms should be returned by Friday, 4th June, 1982.

UXBRIDGE
BRUNEL UNIVERSITY

DEPARTMENT OF MECHANICAL ENGINEERING

PROFESSOR OF APPLIED MECHANICS

Applications are invited for the Chair in Applied Mechanics which will be available in the Department of Mechanical Engineering from October 1983. Candidates should be known primarily for research work in one or more of Dynamics, Structures, Fluid Dynamics.
When this Chair is filled the Department will have an academic staff of at least fifteen including three professors. It is well equipped for undergraduate and research work with an experimental emphasis in one or more of the fields of interest. The Department has some 350 undergraduates and 50 postgraduates reading for the B.Sc. in Mechanical Engineering. The annual intake of approximately sixty students per year is inherent in the Unit's sandwich structure and particularly close contact with industry with industrial problems.
Salary within the professorial range Lecturer £10,740 – £16,740 plus £1,000 London Allowance with superannuation benefits.
Further details are available from the Personnel Secretary, Brunel University, Uxbridge Middlesex UB8 3PH, or telephone Uxbridge 37188 ext. 3030. H1

CARDIFF
UNIVERSITY COLLEGE
DEPARTMENT OF EDUCATION

LECTURER IN Education of Children with Severe Learning Problems

LECTURER IN MODERN LANGUAGES (GERMAN & FRENCH)

Applications are invited for the above posts, tenable from 1 October, 1982.
Applications (3 copies), together with the names and addresses of two referees, should be forwarded to the Registrar, University College, P.O. Box 78, Cardiff CF1 1XL, from whom further particulars may be obtained. Closing date for receipt of applications is 4 June, 1982.

DURHAM
UNIVERSITY
LECTURER IN PSYCHOLOGY

Applications are invited for the post of Lecturer from 1 October 1982. The post is not restricted by the subject, but preference will be given to candidates who are able to assist with one or more of the following areas: Social Psychology; Educational Psychology; Psychological Assessment.
Salary on the scale £6010 – £10,840 under review) plus superannuation.
Applications (three copies) should be sent by 4 June 1982 to the Secretary, University Science Laboratories, South Road, Durham DH1 3LE, from whom further particulars may be obtained.

Universities continued

nihe limerick

Planned as Ireland's first technological university, The NIHE, Limerick, Ireland has already gained widespread recognition for its contribution to the country's industrial development. Construction has now commenced on a new 17,000m² complex, which will double the range of laboratories and specialist business facilities, there are vacancies for:

COLLEGE OF BUSINESS

ACCOUNTING AND FINANCE

SENIOR LECTURER

The person appointed will carry responsibility for course co-ordination and a specialist group of faculty. Accounting is a major specialist option at primary degree level.

MARKETING

LECTURER/ASSISTANT LECTURER

Applications are particularly welcome from persons qualified and experienced in sales management, international marketing, advertising and innovation.

COMPUTER SYSTEMS

LECTURERS/ASSISTANT LECTURERS

Due to the growth of programme offerings in the area of computer systems, there are now a number of vacancies for staff whose expertise lies in the following areas:

- COMPUTER PROGRAMMING/PROGRAMME METHODOLOGY
- OPERATING SYSTEMS
- COMPILERS
- COMPUTER GRAPHICS
- SYSTEMS ANALYSIS AND DESIGN/DATABASE MANAGEMENT SYSTEMS
- DATA COMMUNICATIONS/DISTRIBUTED COMPUTING/NETWORKS
- MATERIAL REQUIREMENTS PLANNING
- COMPUTER ASSISTED INSTRUCTION

COLLEGE OF ENGINEERING & SCIENCE

ELECTRONIC ENGINEERING

LECTURER/ASSISTANT LECTURER

Applicants should have significant experience of analogue and digital circuit design and implementation. Experience in industrial applications including transducers, instrumentation, signal conditioning, data transmission, modern power electronics and electronic production techniques is particularly desirable.

COMPUTER ENGINEERING

LECTURER/ASSISTANT LECTURER

Applicants should have expertise and experience in one or more of the following: operating systems, systems software, high level language compilers and interpreters, computer hardware, interface design, inter-computer communications, networks. Minicomputer and microcomputer expertise would be a decided asset.

MECHANICAL ENGINEERING

LECTURER/ASSISTANT LECTURER

Applicants should have expertise in the areas of thermodynamics and heat transfer, mechanics of materials, and mechanics of solids. Experience in the advanced numerical analysis of heat transfer problems, mechanical vibration analysis, or the application of finite element analysis to problems in stress and strain analysis is particularly desirable.

INDUSTRIAL DESIGN ENGINEERING

LECTURER/ASSISTANT LECTURER

Expertise is required in designing for production and in conceptualising engineered products with high aesthetic standards. Applicants will be expected to have a defined research interest in subject areas such as product design, ergonomics, value engineering and variety reduction.

APPLIED MATHEMATICS

ASSISTANT LECTURER

A background in numerical analysis and computing or in mathematical modelling of non-physical systems would be preferred but applicants with expertise in other areas of mathematics will also be considered.

Candidates should have appropriate qualifications and preferably relevant professional, industrial, lecturing or research experience.

Those appointed will be involved in teaching and project supervision at undergraduate and postgraduate level and will also be expected to undertake appropriate research activities.

SALARY SCALES:

SENIOR LECTURER	IR£13,828-IR£16,285 p.a.
LECTURER	IR£11,665-IR£16,561 p.a.
ASSISTANT LECTURER	IR£ 9,256-IR£11,367 p.a.

Application material available from The Personnel Office, The National Institute for Higher Education, Limerick, Ireland to be completed and returned by Friday, 18 June, 1982.

ESSEX
UNIVERSITY OF

DIRECTOR OF COMPUTING SERVICES

Applications are invited for the newly established post of Director of Computing Services from October 1982. The Director will be responsible for the full operational management of the University's Computing Service, including maintenance of mainframe hardware and software. The Service is based on a DECsystem – 10/90 computer with a wide variety of equipment attached, together with microcomputer services and a microcomputer development facility. Applicants should have experience of management and in hardware and software on large and small computer systems. The appointment will be at Grade 4 (Professorial equivalent) and the commencing salary will not be less than £15,730 per annum.

Applications (twelve copies), including a curriculum vitae and the names and addresses of three referees, should reach the Registrar (C/P/7182), University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, from whom further particulars may be obtained, by 11 June 82. H1

SUDAN
THE UNIVERSITY OF GEZIRA

Applications are invited from suitably qualified candidates for the posts of Professor / Associate Professor / Lecturer in Agricultural Economics, Poultry Science, Dairy Science, Economics, Physics, Mathematics, Management, Accounting and Rural Sociology.

Salary scale including special expatriate allowance: LSUD 3,171 – LSUD 18,111 (£1 sterling = LSUD 1.2593)

2 or 3 year renewable contract; family passages; free housing; annual overseas leave. Detailed applications (3 copies) including curriculum vitae and naming 3 referees, should be sent to the Vice-Chancellor, University of Gezira, PO Box 20 Wad Medani, Sudan, to arrive no later than 25 June 1982.

Applicants resident in the UK should also send 1 copy to the Overseas Educational Appointments Department, The Briter Council, 50/51 Tottenham Court Road, London W1P 0HJ, quoting reference U 124/82.

Further particulars are not available. H1

NEW ZEALAND
PALMERSTON NORTH
MASSEY UNIVERSITY

Postdoctoral Fellowship in Biochemistry

Applications are invited from biochemists for a position in the Department of Chemistry, Biochemistry and Biophysics to undertake research for two years commencing as soon as possible in 1982.

The appointee will be part of a team working on the development of new materials for affinity chromatography and related techniques. A background in enzymology, protein or mucopolysaccharide chemistry is desirable.

Emolument will be NZ$19,140 per annum inclusive of an allowance of up to NZ$9,960 toward return fares.

Applicants should submit a full curriculum vitae with the names and addresses of at least two referees.

Further details of the position together with the conditions of appointment may be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, or the Registrar of the University with whom applications close on 30 June 1982. H1

DUBLIN
UNIVERSITY COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

Applications are invited for full time academic appointments in the Department of Mechanical Engineering. The appointments will be made at the level of either Assistant Lecturer or College Lecturer. Candidates should have a good honours Degree in Mechanical Engineering or its equivalent, and be eligible for Corporate Membership of the Institution of Engineers of Ireland. A higher degree and experience in industry or research are desirable qualifications.

Applicants should have interest and experience in either:

(a) product design, including materials selection, stress analysis and manufacturing processes, operating systems with C.A.D. and C.A.E. systems would be a further advantage, or,

(b) fluid machinery, including pumps, fans, turbines and compressors,

The current salary scales are:
– Assistant Lecturer £6,829 (under review)
– College Lecturer £10,572 – £14,639 (under review)

Entry point on the relevant scale will be in accordance with qualifications and experience. There is a non-contributory pension scheme.

Prior to application, further information (including application procedure) should be obtained from the Secretary, College Surveyor's Office, Belfield, Dublin 4 (telephone enquiries: 693244, ext. 2).

The closing date for receipt of completed applications is Thursday, 8th July, 1982. H1

BIRMINGHAM
UNIVERSITY OF

CENTRE FOR BYZANTINE STUDIES

Part-Time Research Fellowship/Associateship

Applications are invited for the tenure of part-time (by research) Fellow/Associate in any field of Byzantine studies for one year from 1 October 1982. Salary related pro rata to the range £6,070–£6,880 (Fellow/£5,284–£6,070 Associate) plus superannuation.

Applications (six copies), naming two referees, should be sent by 14 June 1982 to Assistant Registrar (Arts), P.O. Box 363, Birmingham B15 2TT, from whom further particulars may be obtained. H1

OXFORD
KEBLE COLLEGE

RADCLIFFE LECTURER IN PHILOSOPHY

The college proposes to appoint a Radcliffe Lecturer in Philosophy for two years from 1 October 1982. The tenureship is open to men and women. The lecturer will be required to teach 12 hours a week during Full Term in Humanistics and other Joint Schools. The annual stipend will be £4,800 (subject to revision).

Further particulars may be obtained from the Senior Tutor, to whom applications, with a curriculum vitae and the names of two academic referees, should be sent not later than 31 May. H1

LONDON
UNIVERSITY OF

QUEEN MARY COLLEGE

Faculty of Laws/ Department of Economics

Applications are invited for a 3 year research fellowship on an SSRC-funded investigation by the Faculty of Laws and Department of Economics jointly into the enforcement (in this country) of judgements for debt. Initial salary up to £9813 on plus £1,635 London allowance.

Applicants should be experienced in statistical analysis, survey techniques and methodology.

Further details available from the Secretary (TRES), Queen Mary College, Mile End Road, London E1 4NS to whom applications (including curriculum vitae and names of two referees) should be made by 11 June, 1982. H1

LIVERPOOL
UNIVERSITY OF

DEPARTMENT OF MECHANICAL ENGINEERING

Applications are invited for the post of Lecturer in the Mechanical Engineering. The post becomes available from an award to Dr. D. Tipler under the S.E.R.C. Special Replacement Scheme. The successful candidate will therefore be a younger man and the initial salary will be within the range £6,070 to £7,700 per annum, on a scale rising to £12,860 per annum. Responsibilities of the post lie in the general area of thermodynamics and fluid mechanics.

Application forms and further information may be obtained from The Registrar, The University, P.O. Box 147, Liverpool L69 3BX, by whom completed forms should be received not later than 7th June, 1982. Quote Ref. EW/15/TRES H1

MANCHESTER
THE UNIVERSITY OF

TEMPORARY LECTURER IN GRAMMAR

Applications are invited for this post, tenable for one year from October 1st. Duties will include conducting projects in movement, improvisation and acting/performance skills, and taking one or more tutorials on general and historical aspects of drama and theatre. An ability to direct formal productions in the University Theatre, as well as studio sessions, is essential. Experience in professional theatre and some interest in French drama also desirable.

Salary range £6,070 – £7,700 p.a.

Particulars and application forms (returnable by June 18th) from the Registrar, The University, Manchester M13 9PL. Quote ref: 46/82/THES. H1

JOHANNESBURG
UNIVERSITY OF THE WITWATERSRAND

DEPARTMENT OF DIVINITY

SENIOR LECTURER (OLD TESTAMENT STUDIES)

Applications from suitably qualified persons, regardless of sex, race, colour or national origin are invited for appointment to the above post. Applicants should hold a doctorate (or be close to obtaining it) in Hebrew and/or Biblical Studies with special emphasis on Old Testament Studies.

Salary will be determined according to qualifications and experience within the range R15,828 – R20,085 per annum. R1 = R1.4860 approx.

Intending applicants should obtain the information sheet relating to this post from the Secretary of the South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Director/Personnel Office, University of the Witwatersrand, 1 Smuts Avenue, Johannesburg, South Africa 2001, to whom applications should be lodged by 21 June 1982. H1

MANCHESTER
THE UNIVERSITY OF

Temporary Lecturers in the Department of Accounting and Business Finance

Applications are invited for these posts from: (i) graduates in accounting and finance; (ii) graduates in allied disciplines such as management science, organisational behaviour and information systems; (iii) professionally qualified accountants or persons with relevant industrial or commercial experience. The appointments will be for one year in the first instance.

Salary range p.a. £6,070 – £12,860.

Particulars and application forms (returnable by June 8th) from the Registrar. The University, Manchester M13 9PL. Quote ref. 50/82/THES. H1

FIFE
UNIVERSITY OF ST. ANDREWS

DEPARTMENT OF GERMAN

Applications are invited for a TEMPORARY LECTURESHIP in GERMAN, tenable for one year (from September or October 1982). Salary within the range £6070 – £8880 per annum (under review) plus U.S.S.

Applications (two copies preferably in typescript) with the names of three referees should be lodged by 15 June 1982 with the Establishments Officer, The University, College Gate, St. Andrews, Fife KY16 9AJ, from whom further particulars may be obtained. H1

CARDIFF
UNIVERSITY COLLEGE

TUTORIAL FELLOW – DEPARTMENT OF MUSIC

Applications are invited for the above post. Duties to commence 1st October 1982. Salary Range: £5,985 – £6,675 p.a.

Applications (8 copies), together with the names and addresses of two referees, should be forwarded to the Vice-Principal (Administration) and Registrar, University College, P.O. Box 78, Cardiff CF1 1XL.

Closing date 5th June 1982. Ref: 2404. H

NORTH WALES
UNIVERSITY COLLEGE OF

SECRETARY AND REGISTRAR

Applications are invited for the post of Secretary and Registrar, from persons appointed will be expected to take up the post on 1st January, 1983, or at such date to be arranged subsequently. The salary will be in the higher part of the professorial range.

Further particulars can be obtained from the Secretary and Registrar, College of North Wales, Bangor, Gwynedd, LL57 2DG.

Ten copies of the application (one from overseas candidates) together with the names of three referees should be sent to reach the Secretary and Registrar by Monday 5th July, 1982. H1

Polytechnics

Faculty of Science

Department of Electrical, Electronic and Control Engineering

READER/PRINCIPAL LECTURER In MICRO-PROCESSOR ENGINEERING

Due to major departmental developments in the industrial applications of micro-processor systems a post of Reader/Principal Lecturer has been created to provide for the leadership and development of this important area of work.

Applications are therefore invited from highly qualified candidates who have a proven record of successful industrial collaboration, attraction of external funding, personal research, research supervision and a sound in-depth knowledge of the design of micro-processor systems for industrial applications.

Department of Mathematics & Computer Studies

PRINCIPAL LECTURER In APPLIED MATHEMATICS

Applicants should have an honours degree or its equivalent, research or industrial experience and lecturing experience. The successful candidate will take a leading role in the administration of the department and will be required to contribute to the research/consultancy activities.

Faculty of Engineering

Department of Mechanical Engineering

SENIOR LECTURER/ PRINCIPAL LECTURER In ENGINEERING DESIGN

Candidates should have good academic qualifications in Mechanical Engineering and preferably several years relevant experience.

Faculty of Humanities

Department of Social Sciences

TEMPORARY LECTURER II In ECONOMICS

Applications are invited for this two-year lectureship commencing 1 September 1982.

The successful applicant will be required to teach economics on a range of undergraduate courses and contribute to a specialist area within the discipline. An interest in urban and regional economics would be an advantage.

Salary Scales (under review):
R & PL: £11,298–£12,591 Bar £14,238
SL: £9,624–£11,328 Bar £12,141
L II: £8,462–£9,624 Bar £10,431

Application forms and further particulars for all posts may be obtained from the Personnel Officer, Sunderland Polytechnic, Langham Tower, Ryhope Road, Sunderland SR2 7EE, or tel: Sunderland 76231, ext. 11. Closing date 4th June, 1982.

SUNDERLAND POLYTECHNIC

OXFORD
POLYTECHNIC

DEPARTMENT OF CONSTRUCTION

LECTURER II/SENIOR LECTURER IN CARTOGRAPHY

To contribute to teaching the field of Cartography which is part of the BSc (Hons) Applied Mapping course. Also to develop contacts with professional practices with whom students may undertake a research project and to demonstrate a research interest.

Salary scales: Lecturer II £6,534 – £7,731 Senior Lecturer £8,634 – £10,431 under review.

Further particulars and application forms can be obtained from the Head of Department of Construction, Oxford Polytechnic, Oxford OX3 0BP. H1

OXFORD
POLYTECHNIC

DEPARTMENT OF ENGINEERING

SENIOR LECTURER OR LECTURER II IN MECHANICAL ENGINEERING DESIGN.

Applications for this post are invited from honours degree engineering graduates with an interest in teaching and research or industrial experience in the area of mechanical engineering design with particular reference to computer aided design. An interest in engineering mechanics, material engineering and CAD/CAM is highly desirable.

Salary scales: Senior Lecturer £8,634–£10,431; Lecturer II £6,462 – £7,731.

Further particulars and application forms can be obtained from the Head of Department of Engineering, Oxford Polytechnic, Headington, Oxford. H1

Polytechnics continued

Nottinghamshire County Council

ASSISTANT DIRECTOR (Administration)

£16,761 × £384(3) – £17,913

Trent Polytechnic is one of the largest Polytechnics in the United Kingdom, occupying a premier position in the City of Nottingham, together with a large site situated in a semi-rural position on the South side of the City. It has an annual budget in excess of £27,000,000 to provide a wide range of Full Time, Sandwich and Part Time Courses. It has an annual enrolment in excess of 10,000 students to its 53 Degree courses, 90 Diploma and Certificate courses and to more than 20 courses leading to qualifying examinations of professional bodies. The Polytechnic employs over 800 academic staff and approximately 1,200 administrative, clerical, technical and other ancillary staff.

For this key post, the Governing Body wishes to encourage applications from candidates drawn from industry, commerce, professional institutions, public service and higher education. Candidates should be well qualified and have had substantial relevant experience at a senior level in a major organisation. Whereas no specific emphasis of expertise is a pre-requisite, candidates with significant experience in at least one of the areas of higher education, academic administration, finance and staffing will be particularly welcome.

The main duties of the post comprise essentially four elements namely:–

1. The duties of Clerk to the Governing Body;
2. The development, oversight, monitoring and control of the administrative and committee procedures of the Polytechnic, which cover the three principal functional areas of staffing, finance and academic administration;
3. Line management responsibilities for certain ancillary services;
4. The role of Assistant to the Director in the general management of the Polytechnic.

Together with any other duty or function assigned to him by the Director.

A statement of further particulars can be obtained from the Staffing Officer, Trent Polytechnic, Burton Street, Nottingham, NG1 4BU, and applications, addressed to The Director, should be made before the closing date of 2nd June 1982.

TRENT POLYTECHNIC NOTTINGHAM

LEEDS POLYTECHNIC

HEAD OF THE SCHOOL OF LAW

This post will become vacant due to retirement from September 1982.

Applicants should have good academic and/or professional qualifications together with substantial experience at a senior level in education or the legal profession.

Salary scale: £15,045 – £16,590

Details from: The Services Officer, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: 0532 462365.

Closing date: 4 June 1982. *Please enclose sae.*

KINGSTON POLYTECHNIC
School of Surveying

PRINCIPAL LECTURER

A professionally qualified surveyor is required to lead the team working on the degree course in Estate Management. The School is about to commence preparation of a submission for an Honours course in Estate Management. Experience of teaching to Honours level would be an advantage.

Salary range £11,784–£14,736 inclusive of London allowance.

Details and application forms from Academic Registry, Dept. ADVT, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames KT1 2EE. Tel: 01-549 1366.

BRIGHTON POLYTECHNIC
FACULTY OF ART & DESIGN
DEPARTMENT OF FINE ART

SENIOR LECTURER IN SCULPTURE (0.5FTE)

£9,624–£12,141 per annum pro rata

Required from September 1982 for three years in the first instance.

Further details and application forms from:

The Deputy Head of Personnel, Brighton Polytechnic, Moulescoomb, Brighton BN2 4AT. Tel: Brighton 693655, Ext. 2536.

Closing date: 11 June.

COVENTRY (LANCASTER) POLYTECHNIC

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

LECTURER GRADE II/ SENIOR LECTURER

Applicants should have a good honours degree in electrical engineering or equivalent together with some recent experience in research or development, special interests in microprocessors or similar new technologies would be an advantage.

DEPARTMENT OF MATHEMATICS

LECTURER GRADE II

The department is seeking a person to co-ordinate the development of an open workshop in mathematics. Applicants should possess a good honours degree in mathematics or equivalent and have a strong interest in teaching methodology at the lower end of the ability spectrum.

Salaries: Lecturer Grade II/Senior Lecturer – £6,462–£10,431 (under review).

Lecturer Grade I – £5,462–£10,431 (under review).

Details from assistant personnel officer, Coventry (Lanchester) Polytechnic, Priory Street, Coventry CV1 5FB (telephone 24166, ext 2023). Closing date 4 June 1982. H3

LONDON
MIDDLESEX POLYTECHNIC

Lecturer in Drama Theatrecraft (Threatrical Appointment)

L/II/SL: £6860 – £12639 pa inclusive

PL: £11,795 – £14,736 pa inclusive

To be responsible for the visual aspects of production, including theatre history, set, costume and make up.

Graduate status or equivalent professional experience is expected. Preferably the relevant experience of teaching theatre studies and the background of professional theatre design. Will contribute through lectures, workshops, classes and studio activities to the courses. The post involves responsibility for coordinating the production schedule across the programme of the Trent Park location, including technicians, wardrobe and workshop resources.

Good academic qualifications, degree teaching experience and the ability to initiate and conduct research will be expected for appointment at PL level.

Write quoting ref. A265A, for further information and an application form, posting first-class to: Personnel Office, Middlesex Polytechnic, Hat Campus, Hale, London NW4 2RM. Closing date, 4 June. H3

Personal

IMMIGRATE ADVANCES £100 to £800,000 Long terms on request. Regional Trust plc, 51 Dover Street, Piccadilly, London W1X 3RA. Phone 01-491 2834 or 499 8416. L000

THE CROSSWORD CLUB offers members a real crossword challenge. Details (overseas members welcome) from Farm, Frogs Liberty, Ashridge, Romsey, Hants. H20

Holidays and Accommodation

EXCHANGE Calif. prof. 40 miles San Francisco, 1 1/2 hrs So. Cntry Club, Stockton. H3

NORTH STAFFORDSHIRE POLYTECHNIC

DEPARTMENT OF ECONOMICS

LECTURER II/SENIOR LECTURER

The work of the department involves both Honours Degree and sub-degree work across the Polytechnic including B.A. Economics, B.A. Business Studies, B.E.C., H.N.D. and H.N.C. courses. From September the department will be in a strong position to offer options or strong research interest in any area of economic rather than economic history.

Salary scales: Senior Lecturer £8,634 – £12,528 (Bar) £14,151 per annum. Lecturer II £6,462 – £10,431 per annum.

Application forms and further particulars are obtainable from the Personnel Officer, North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE. (0782) 45331 Ext. 257.

Closing date: 4th June 1982. H3

THAMES POLYTECHNIC

School of Civil Engineering
SENIOR LECTURER

Applications are invited from chartered civil Engineers holding an Honours Degree, interest in the subjects of Surveying, Materials, Construction Practice and Design would be most appropriate. Duties include the promotion and organisation of further education courses. Consultancy and research are encouraged.

School of Business Administration
ASSOCIATE SENIOR LECTURER (half-time)
in Personnel Management

Applicants should have recent experience in personnel management, high academic qualifications and preferably be members of the I.P.M. Duties include lecturing on personnel management and industrial relations.

Salary scales: Senior Lecturer £10383 – £12087(bar) – £12900. Associate Senior Lecturer (.5) £5191.50 – £6043.50(bar) – £6450. inclusive.

Further particulars and application form from the Staffing Office, Thames Polytechnic, Wellington Street, London, SE18 6PF to be returned by 8 June 1982. H3

OXFORD
POLYTECHNIC

DEPARTMENT OF MANAGEMENT STUDIES

LECTURER II/SENIOR LECTURER IN MARKETING

(Temporary Appointment for One Year)

An appointment is being made to replace a member of the marketing staff who is taking a year's leave of absence. Marketing teaching in the Department includes an option in the BA (Hons) Business Studies Degree and an option in the Business Education Council Higher National Awards courses. There is also marketing work on short courses for managers, and there is a possibility of another option in advertising.

Applicants should have a degree and/or a post-graduate qualification.

Salary scale: Lecturer II £6,462 – £7,731. Senior Lecturer £8,634 – £10,431

Further particulars from Ron Clark in the Department of Management and Business Studies, Oxford Polytechnic, Lady Spencer-Churchill College, Wheatley, Oxford, OX9 1HX.

Closing date: 4th June 1982. H3

ABERDEEN
ROBERT GORDON'S INSTITUTE OF TECHNOLOGY

SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE

SERC RESEARCH STUDENTSHIP

Honours graduates in relevant disciplines for research leading to M.Phil or Ph.D within the following areas:

C.A.A.D. (Dr J. W. W. Lelas, Director of Studies). General applications of Computer Aided Design to man/machine and/or micro-processors.

Energy (Dr. C. J. Sellars, Director of Studies). Instrumentation of solar, passive and energy monitoring, active and passive solar heating.

Details from: Secretary, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen AB9 1FR. H10

Research Posts

Colaiste na hOllscoile Corcaigh
University College Cork

NATIONAL MICROELECTRONICS RESEARCH CENTRE

The Centre was established at UCC in 1981 and its building and facilities are shortly due for completion. Principal activities of the Centre include basic and applied research and development in the design and fabrication of solid state devices and integrated circuits. We now wish to recruit the following professional and technical staff to complement existing personnel.

RESEARCH SCIENTISTS

(4 positions)

With research interests and experience in one or more of the following areas: IC Design; Process Design and Development; Computer Aided Design; Device Physics. Some teaching duties (mainly at the postgraduate level) are attached to these posts.

PROCESS ENGINEER

Duties will entail maintaining and running the principal CMOS process and developing new processes in cooperation with other members of staff. Experience in this area is essential.

For these posts, salaries will be within the range IR£11,918–IR£15,234 and IR£12,854–IR£18,285 depending on qualifications and experience. Appointment at higher level is possible for exceptionally well qualified and experienced applicants.

RESEARCH ASSOCIATE

Main activity in the area of IC Mask Design and Layout.

A Degree (Hons.) in Computer Science/Electronics with an interest in Software and/or experience in IC Design is required.

Salary: within the range IR£8,649–IR£11,895.

For application forms apply to Establishment Officer, University College, Cork, Ireland, by postcard or telephone (021-28871, Ext. 2332).

Completed forms should be submitted to above *by June 30th, 1982.*

MEDICAL RESEARCH COUNCIL
Institute of Hearing Research

RESEARCH ON SPEECH

A new scientific post is being established at the Institute for work on aspects of speech relating to hearing and hearing impairment. The Institute is affiliated to the University of Nottingham and enjoys good relationships with the workers in adjacent research areas within Departments of Psychology and of Behavioural Science.

The projects of the appointed person will be located within a subset of the following areas: auditory control of speech production; production processes; production in the profoundly hearing impaired; audio-visual speech perception; video speech synthesis; lipreading skills; cognitive factors in aging; ergonomic and psychoacoustic requirements of aids; computer-based testing techniques.

Considerable independence and initiative in the formulation and conduct of the projects will be expected so applicants should have experience in one of the following areas: vision, human information processing, psycholinguistics, speech or hearing. They should have or be completing a PhD. It is expected that the appointment, which is for 3 years, will be made at the junior postdoctoral level. An appropriate salary could be offered to a more experienced applicant prepared to accept a short-term appointment, otherwise appointment will be on the Scientific Scale Grade II (£6,070 – £9,750) according to qualifications and experience.

Further details are available from Dr. A. Q. Summerfield. Tel: 0602-223431.

Southampton THE UNIVERSITY

RESEARCH FELLOW IN ECONOMETRICS

Applications are invited for a post of Research Fellow on a three-year project examining Model Specification and Testing in Econometrics. The project is funded by the SSRC and is under the direction of Professor G. E Mizon and Dr. T. S. Breusch, of the Department of Economics.

Applicants should have a proven potential for research. Duties would include assisting and collaborating with the principal researchers, as well as the pursuit of individual research within the scope of the project.

A postgraduate student separately funded by SSRC research-linked studentship will be working closely with the group on this project. In addition, the Department of Economics at Southampton has a number of other people engaged in research and teaching in econometrics.

Initial salary would be according to qualifications and experience on the scale £8,070–£8,880. This scale is subject to revision from April 1982, and there is a provision for annual increments.

Further information may be obtained from either Professor Mizon or Dr. Breusch.

Applications, giving details of age, qualifications and experience, *together with the names of three referees, quoting reference 321/R, should be sent to:*

Mr. D. A. S. Copland, University of Southampton, Highfield, Southampton SO9 5NH.

by 7 June.

Research Posts continued

UNIVERSITY OF EAST ANGLIA
Norwich

SENIOR RESEARCH ASSOCIATE IN COLOUR RASTER GRAPHICS

Applications are invited for the above post funded by the SERC to work on the applications of high quality colour raster graphics to engineering design, and on the development of high-level device-independent raster graphics software, directed by Professor A. R. Forrest. Salary will be within the range £8,079 to £7,700 per annum, and is tenable for a maximum of three years. Applicants should have qualifications in computer science and experience in computer graphics. Preference will be given to candidates who have completed or expect shortly to complete a PhD.

Applications should be sent to the Senior Administrative Assistant, School of Computing Studies and Accountancy, University of East Anglia, Norwich NR4 7TJ, from whom further particulars may be obtained, not later than 5 June, 1982.

SALFORD
UNIVERSITY OF

DEPARTMENT OF CIVIL ENGINEERING

RESEARCH ASSISTANT IN ULTRASONIC FLOWMEASUREMENT

Required to assist, under Professor J. D. Gray and Dr N. L. Henderson, in a SERC fact finding project concerned with the design of ultrasonic flowmeters. Candidates should have experience in one of the following areas: ultrasonic techniques, the design of high speed switching circuitry, or microprocessors.

Appointment for 3 years. Salary on scale £6070 – £10575 with commencing salary up to £7700. (18% benefits).

Further particulars and an application form are available from the Registrar, University of Salford, Salford M5 4WT (tel: 061-736 5843 ext. 213) to whom completed applications should be returned by 11 June, 1982 quoting reference 5/5/82 TI(ES). Further details can be obtained from Professor Grey (ext. 7140).

LONDON
INNER LONDON EDUCATION AUTHORITY

GARNETT COLLEGE
Dawnitree House,
Buckhampton Lane, London
SW15 4HR (01-788 6333)

RESEARCHER GRADE A

(£4,386 – £5,034 plus £730 London Allowance)

Applications are invited for the post of Researcher Grade A in the college's Research & Development Unit to work on one or more of a number of new projects concerned with organisational features or aspects of teaching and assessment in Further Education. The projects are concerned with the development of the Government New Training Initiative with respect to Further Education Teacher Training and applications of new microcomputing technology in Further Education.

Applicants should be graduates with an interest in educational research and the successful candidate will be encouraged to seek registration for a higher degree. The appointment will commence as soon as possible and will be for a fixed period of three years.

Further details and application forms returnable within 14 days, from The Principal (TES), Garnett College, Downshire House, Hailsham Lane, London SW13 4HR. (07-788 6333). H10

UMIST
CENTRE FOR COMPUTATIONAL LINGUISTICS
SERC/SSRC STUDENTSHIP

The Centre seeks applicants for a quota award in Machine Translation or Terminology (MSc or PhD) from graduates in Linguistics, Computation or Modern Languages.

Letters of application, quoting reference ES/SR/C, should be sent to Professor J. C. Sager, Centre for Computational Linguistics, UMIST, PO Box 88, Manchester M60 1QD. H10

Colleges of Higher Education

BRETTON HALL
COLLEGE OF HIGHER EDUCATION
(Affiliated to the University of Leeds)

Lecturer II/ Senior Lecturer in Music
(TWO APPOINTMENTS)

To join a lively Music Department offering BA (Hons), BA (Ord), B.Ed and PGCE courses.

Applicants should possess a high standard of practical musicianship and a good knowledge of 20th-Century music. Experience in any of the following areas welcomed: primary and secondary teaching, Choral training, creative musicianship, electronic studio work, and inter-disciplinary arts studies.

Both appointments required for September 1982.

Salary for all posts: Lecturer II/Senior Lecturer scale £6,462/£9,824/£12,141.

Further details and application forms to be returned by 4th June, 1982 from the Principal, Bretton Hall College, West Bretton, Wakefield, West Yorks. WF4 4LG. Tel: 092 485261.

PREVIOUS APPLICANTS NEED NOT RE-APPLY.

HARPER ADAMS AGRICULTURAL COLLEGE
NEWPORT, SHROPSHIRE

VICE PRINCIPAL

Applications are invited for the above post which carries considerable senior management and administrative responsibilities. Candidates must possess the essential personal attributes required to meet these responsibilities, a degree in Agriculture and sound experience in teaching and practical farming.

The Vice-Principal is responsible for the College in the absence of the Principal and has the specific role as Director of Studies. He/she will be expected to live on the College's campus in a well situated detached house which is provided rent and rates free.

The salary will be in the Burnham Scale for Vice-Principals in Establishments for Further Education and is currently £16,533 (under review). The successful candidate should be able to take up the post on or before 1st January, 1983.

Further details and application form are available from:
The Principal,
Harper Adams Agricultural College,
Newport, Shropshire TF10 8NB.

WEST LONDON INSTITUTE OF HIGHER EDUCATION
Principal: J E Kane KCSG MEd PhD

APPOINTMENT OF REGISTRAR

Applications are invited for appointment as Registrar of the West London Institute in succession to Mr G C Knight BA the first Registrar of the Institute who is retiring in December 1982.

Applicants should hold graduate and/or professional qualifications, and should have considerable relevant experience, desirably though not necessarily in education offices or institutions, in posts which have afforded them opportunities of demonstrating powers of leadership, managerial skills, and knowledge of budgetary procedures and regulations.

The salary attached to the post is at the appropriate point in the P03(1–5) scale with the Outer London allowance. Further particulars can be obtained from

The Clerk to the Governors
West London Institute of Higher Education
Gordon House
300 St Margarets Road
Twickenham
Middlesex TW1 1PT

by whom applications must be received by Friday 4th June, 1982.

SOUTH GLAMORGAN COUNTY COUNCIL
SOUTH GLAMORGAN INSTITUTE OF HIGHER EDUCATION

DEAN

OF THE FACULTY OF TECHNOLOGY: GRADE VI (HEAD OF DEPARTMENT)

Applications are invited for the above post from well qualified and experienced graduates in Engineering.

Salary: £16,045–£16,590 (salary award pending)

Application forms and further details (to be returned within 14 days of the appearance of this advertisement) are obtainable from: The Personnel Officer, South Glamorgan Institute of Higher Education, Cyncoed Centre, Cyncoed Road, Cardiff.

Librarians

LONDON
Inner London Education Authority

AVERY HILL COLLEGE
Bexley Road, Eltham, SE9 2PQ Tel: 01-850 0081
Principal: Michael Lovitt, MA, MEd, DMS, FBIM.

Department of Environmental and Social Studies

Science Section

There is a vacancy from September 1982 for a **GEOGRAPHY LECTURER II IN PHYSICS** to join a team of lecturers teaching on the Special Course in Natural Sciences within the B.Sc. degree. To provide specialist courses in physics teaching within recognised PGCE programmes, and to contribute to the teaching of other teacher education and diversified programmes, including courses in Craft Design and Technology and the Diploma in Environmental Studies.

Applicants should be well qualified in the fields of pure or applied Physics/Engineering and have a lively attitude to their specialism and to the nature and application of science in society. The successful applicant should have substantial experience of teaching physical science to the secondary school and industrial or technological issues with non-examination 16–19 year olds and/or mature students.

Salary scale: Lecturer II £6,462 – £10,041 (plus £730 Inner London Allowance) subject to formal approval.

Further details and application forms may be obtained from the Principal to whom completed forms should be returned by the first post on Friday 4 June 1982.

CAMBRIDGESHIRE COLLEGE OF ARTS AND TECHNOLOGY

LECTURER IN LAW (2 posts)

Required from 1 September or as soon as possible thereafter to teach on a wide variety of courses from A level and equivalent upwards. Applicants should have a good honours degree and/or other professional qualification in Law. A specialist interest in the Law of Property, Torts, Company Law or Jurisprudence would be advantageous as would teaching experience.

Salary scale £5,036 – £9,618 (under review), starting point depending on qualifications and experience.

Details and forms from the Head of Department of Management and Business Studies, CCAT, Cambridge CB1 2AP, Cambridge (0223) 63211 ext. 251 to whom forms should be returned for the purpose by June 4th.

LONDON
Inner London Education Authority

AVERY HILL COLLEGE
Bexley Road, Eltham, SE9 2PQ Tel: 01-850 0081
Principal: Michael Lovitt, MA, MEd, DMS, FBIM.

Department of Environmental and Social Studies

LIBRARY

TEMPORARY CATALOGUERS

The Institute Library has immediate vacancies for TWO temporary cataloguers to assist the Chief Cataloguer in the task of retrospective conversion for library catalogue records to machine readable form. The Institute is a member of BLCMP, and the tasks involve some reclassification and some stock editing as well as data preparation.

The appointment in each case is for one year and carries a salary of £5,036 per annum.

Applicants who should be qualified professional librarians preferably with some experience of automated cataloguing procedures should write or telephone as soon as possible to Miss G. M. Fry, Library Co-ordinator, Libraries, West Sussex Institute of Higher Education, Bishop Otter College, College Lane, Chichester, West Sussex PO19 4PE. Tel: Chichester 787911.

Universities continued

BRADFORD
UNIVERSITY OF MANAGEMENT CENTRE.

LECTURESHIPS IN INDUSTRIAL RELATIONS (Ref. MA/JA/07/H).

Candidates should hold good Honours Degree in Economics, the Social Sciences or Law. Lecturer appointed will teach undergraduate, post-graduate and post experience courses. Appropriate teaching and/or industrial experience and a higher degree desirable. Interest in labour law an advantage. Informal enquiries to Dr R. Cuthbert (0274-33466).

LECTURESHIP IN MARKETING (Ref. MA/JA/07/H).

Marketing Group wishes to recruit a lecturer to its team to contribute to undergraduate, post-graduate and post-experience courses. The successful candidate will be expected to high quality research and teaching interest in business policy, strategy, information and/or to foreign business. Ph.D. preferred.

Salaries within range £5,036 – £9,618 (under review) according to qualifications and experience. Application forms and further particulars may be obtained from the Personnel Secretary, University of Bradford, Bradford, West Yorkshire BD7 1DP. Closing date 30.6.82. H1

Technical Colleges

REGIONAL TECHNICAL COLLEGE ATHLONE
CO. WESTMEATH VOCATIONAL EDUCATION COMMITTEE

Applications are invited for the following posts:

LECTURER I
Child Psychology,
Accountancy,
Mechanical Engineering,
Electronic Engineering,
Chemistry,
Physics and Mathematics.

LECTURER I
(half-time non-pensionable)
Electronics

COLLEGE TEACHER
Physics,
Food Science,
Dairy Science,
Physical Education,
Mathematics,
Art and Design,
Trade Subjects – Motor Engineering,
Trade Subjects – Electrical Maintenance,
Trade Subjects – Motor Engineering
(Preference may be given to candidates with experience in Farm Machinery).

Qualifications and Conditions of Service in accordance with Memo V.7 of the Department of Education. The number of increments which may be awarded for previous suitable experience is normally a maximum of five.

Salary scales:

Lecturer I	IR £10,682–£15,053
Lecturer I (½ time)	IR £5,346–£7,527
College Teacher	IR £8,243–£13,992

Application forms and particulars of the posts are available from the Principal, Regional Technical College, Athlone, Ireland, with whom completed applications should be lodged *not later than 5.00 p.m. 8th June, 1982.*

Committee's Office,
Bridge House,
Bellevue Road, Mullingar. S. O'Lochlainn, C.E.O.

Adult Education

RICHMOND UPON THAMES EDUCATION COMMITTEE

Appointment of Principal
Richmond Adult College

Current Salary in the range of £16,917–£17,946 inclusive of outer London Allowance

Applications are invited for the appointment of Principal of this Group 4 Adult Education College. The vacancy arises from the retirement of the present Principal, Mrs P. M. Leslie, OBE.

The college, a main full time base in Richmond, and a new additional full time base about to be developed in Twickenham, offers a full range of day and evening non-vocational courses in approximately 40 centres and outstations across the Borough. Some 30 subjects at GCE 'O' and 'A' level are also offered, together with a smaller number of vocational courses mainly in the secretarial and language fields. The college has at present some 14,000 individual students on its role.

Candidates must be able to demonstrate a strong commitment to adult education, and must have a successful record at senior level in adult education or a closely related field.

Further particulars and application forms returnable by 11 June 1982, from Director of Education, Regal House, London Road, Twickenham, Middlesex TW1 3QB.

Administration

HEALTH EDUCATION COUNCIL

Director General
ABOVE £24,000

The Director General is the main representative, negotiator, spokesman, draughtsman and executive for the Council. In its work of health education the Council determines policies, decides and advises on priorities and campaigns, publishes scholarly and publicity material, undertakes and supports surveys and research, collates and evaluates medical, epidemiological, sociological, psychological and educational information arising from its own work and from that of others, promotes education and training, and maintains liaison with the education service, the national health service, and local and national government, with related bodies and with the media.

The present annual budget of the Council, which is financed by the Department of Health and Social Security, is £8.5m., and there are about 80 members of staff.

The vacancy is due to the resignation of Professor K. B. Taylor, DM., FRCP., caused by severe flood damage to his house in California. It is hoped that his successor will come into post on 1 October 1982.

Further information about this extremely important and challenging post may be obtained from the Chairman of the Council, Dr. Brian Lloyd, who will be very grateful to receive informal enquiries from, or suggestions about, potential applicants, who should have a professional interest in health education, in health, in education, or in relevant aspects of communication.

Applications, which will be handled in strict confidence by the Chairman in person, should contain a curriculum vitae, a list of publications, if any, and the names of three referees, and should, if possible, reach him in Oxford by 7 June 1982.

Brian B. Lloyd, M.A., D.Sc.,
High Wall, Pullens Lane,
Oxford OX3 0BX.
Tel: Oxford (0865) 63353

The Health Education Council
Helping you to better health

This post is open to men and women.

Chief Administrative Officer and Clerk to the Governing Body
(Salary PO1F £10,512 to £11,754 per annum)

Applications invited from suitably qualified persons with experience of Further and/or Higher Education.

For further details please send stamped addressed envelope to the Vice-Principal, Slough College of Higher Education, Wellington Street, Slough, SL1 1YG, to whom completed application forms should be returned within two weeks. Berkshire County Council is an equal opportunities employer.

Slough College

THE SCOTTISH COUNCIL FOR EDUCATIONAL TECHNOLOGY

DEPUTE DIRECTOR

The Scottish Council for Educational Technology wishes to appoint a second Depute Director with specific responsibility for the development of SCET programmes of work in support of Education and Training. This is a new appointment through which the Council seeks to improve its capacity to respond to and contribute to the changing needs of Education and Training in the 1980's.

It is expected that the successful candidate will already hold a senior administrative or departmental post in education and will have established a personal reputation for innovation and leadership in his or her own field. Experience of the Scottish education system will be a substantial advantage.

Salary on scale £14,976–£16,114 (four-yearly under review).

Contributory superannuation scheme.

Further information from:

The Secretary
S.C.E.T.
Dowanhill, 74 Victoria Crescent Road, Glasgow G12 9JN
Tel: 041-334 9314

Completed applications should be received by 3rd June, 1982.

PLEASE NOTE

Times Higher Educational Supplement 4th June issue

Advertisement copy for the above issue must arrive by 10.30am on Friday, 28th May, 1982.

Universities continued

BRADFORD
UNIVERSITY OF MANAGEMENT CENTRE.

PROJECT PLANNING CENTRE FOR DEVELOPING COUNTRIES

FELLOW IN TEACHING MATERIALS
(Ref. PPC/PTM/TH)
(Fixed-term appointment for 3 years)

To be the principal member of a team preparing teaching materials for use in post-experience courses in the planning, appraisal and implementation of development projects. Disciplinary background may be in economics, education, finance, engineering, planning or in other relevant disciplines. Experience of teaching, involvement in projects in developing countries, and work with microcomputers an advantage. Salary within the range £5,070–£8,106 p.a.

TEACHING MATERIALS DEVELOPMENT ASSISTANT
(Ref: PPC/TMA/JH).
(Fixed-term appointment for 3 years).

Member of a small team preparing teaching materials for use in post-experience courses in the planning, appraisal and implementation of development projects, and other planning topics. Applicants should have interests in training, and in developing countries. Degree background may be in economics, finance, technical subjects, education, geography or other relevant areas. Experience of teaching computer/reference work a strong advantage. Salary within the range £5,285–£7,700 p.a.

Further particulars and application forms from the Personnel Secretary, (Quote the reference) University of Bradford, West Yorkshire, BD7 1DP. Closing date 30.6.82. H1

NATIONAL FOUNDATION FOR EDUCATIONAL RESEARCH IN ENGLAND AND WALES

Director

- The Board of Management invites applications for the post of DIRECTOR which will become vacant on the retirement of the present Director, Mr Alfred Yates.
- The Salary Scale will be within the range for full-time professorial appointments with an addition related to qualifications and experience.

Further information may be obtained from the Secretary, National Foundation for Educational Research, The Mere, Upton Park, SLOUGH SL1 2DQ, Berks.

Applications should be marked "DIRECTOR-NFER" on the envelope and addresses to the Chairman of the Foundation: A. W. S. Hutchings Esq, CBE, MA, FEIS, FCP, c/o the address above, to reach him by 30th June, 1982.

Polytechnics continued

Lecturer 'A' in Physiology and Biochemistry
£7,956–£11,700
(Bar)–£12,561
Post Ref: 82/06

Applications are invited for the above post from graduates, preferably with research and teaching experience in Higher Education.

The successful candidate will be mainly involved in teaching Physiology and Biochemistry on the B.Sc. and Post Graduate Diploma in Dietetics, the B.A. Home Economics and the Diploma in Physiotherapy.

Application forms and further particulars are available from:

The Secretary and Treasurer (Staffing), at the address given below

and should be returned by Friday, 4th June, 1982.

THE QUEEN'S COLLEGE GLASGOW
1 Park Drive, Glasgow, G3 6LP
Tel: 041-334 9141

A Scottish Central Institution.

Overseas

THE SOCIALIST PEOPLES LIBYAN ARAB JAMAHIRIYA

THE HIGHER INSTITUTE OF TECHNOLOGY, BRACK, LIBYA

This is a newly established institute whose aim is to produce well-qualified graduates and establish research, mainly in areas which will contribute to national industry.

PROFESSORS AND LECTURERS

The Institute is looking for well-qualified and experienced candidates with drive and initiative who will be involved in the development and conducting of courses. Applicants should have a strong academic background, preferably with some industrial experience.

The main fields of interest are as follows:

I. MEDICAL LABORATORY TECHNOLOGY DEPARTMENT

Teaching and Technical Staff in:
Haematology, histology, clinical biochemistry, medical microbiology, parasitology, anatomy/physiology, analytical chemistry/instrumentation.

II. ENVIRONMENTAL STUDIES DEPARTMENT

Teaching and Technical Staff as follows:
Civil/Environmental Engineer (for water, solid waste, appropriate technology, etc.), analytical chemist, soil scientist/geologist/geographer, ecologist, microbiologist, biostatistician.

III. FOOD TECHNOLOGY DEPARTMENT

Teaching and Technical Staff as follows:
Quality control chemist/food analyst, meat technologist, dairy technologist, food technologist in thermal processing (all aspects of thermal processing of various high and low acid food products), good development technologist.

Also required for this Department **MAINTENANCE ENGINEER,** must be versatile – boiler operation and maintenance, refrigeration and air-conditioning, electrical systems, pipe fitting and general maintenance of food processing plant and equipment.

IV. GENERAL SCIENCE DEPARTMENT

Teaching Staff in:
Physics, zoology, botany, mathematics, and English for specific purposes.

GROSS ANNUAL EMOLUMENTS RANGE AS FOLLOWS:

PROFESSORS:	LD 11,760–LD 13,110
ASSOCIATE PROFESSORS:	LD 10,410–LD 11,760
ASSISTANT PROFESSORS:	LD 9,510–LD 10,410
LECTURERS:	LD 8,760–LD 9,513
ASSISTANT LECTURERS:	LD 7,541–LD 8,758

Technical Staff Pay Scale depends upon qualifications and experience.

The Rate of Exchange from Libyan Dinars to Pound Sterling is approx. 1 LD = £1.7.

Salaries are paid in Libyan Dinars and are on an increment scale. Ninety per cent of the pay is allowed to be transferred out of Libya in whatever currency the candidate requires.

The point of entry depends on the candidates qualifications, experience and the level of appointment offered.

In addition to this, successful candidates will receive the following benefits:

1. Free passage to and fro from the place of recruitment for self and family up to a maximum of four children under 18 years of age.
2. Baggage allowance for transportation of personal effects up to 25% of air charges.
3. The Institute provides fully furnished air-conditioned accommodation within the campus.
4. Air tickets for annual leave are provided for self and family as mentioned above.
5. Children's Education Allowance of LD 500 per child per annum.
6. Free medical service for staff member and family.
7. On termination the staff member will receive a gratuity of two months pay for each completed year of service payable at the end of the contract.

Applications in writing please, enclosing two Curriculum Vitae and names of two referees, and daytime telephone number to:

Mr. M. Samuel, 35 Bradfield Close, off Station Road, Reddish, Stockport, Cheshire.

SOUTH-EAST ASIA
THE BRITISH ACADEMY

THE BRITISH INSTITUTE IN SOUTH-EAST ASIA

Assistant Director

Applications are sought for the new post of Assistant Director of the Academy's Institute in South-East Asia.

The person appointed will be expected to participate in the Institute's research programme; to carry out certain administrative duties under the Director; and to deputise for him in his absence. The headquarters of the Institute are at Singapore but its activity interests extend over all the region east of the Indian subcontinent and south of China, and include the arrangements by anthropology and history of this area. Linguistic regions and the Applied Arts and to carry out and encourage related public education and research.

Salary: N.Z. $30,000 – $37,000

Qualifications – Honours degree or equivalent, supplemented by administrative skills together with scientific skills based on Museum curatorial duties including display, curating and maintenance of collections.

For schedule of further information (telephone or write to the Secretary, Canterbury Museum Trust Board, Rolleston Avenue, Christchurch 1, New Zealand (Telephone 64-3 795).

Applications close on 31st July 1982. H12

NEW ZEALAND
CANTERBURY MUSEUM
CHRISTCHURCH

DIRECTOR

Applications are invited for the post of Director of the Canterbury Museum to succeed Mr Roger Duff on the retirement of the present Director on 28th February 1983.

The Museum is under the control of the Canterbury Museum Trust Board and is maintained principally by local Authorities for collections on Anthropology, Natural History, Canterbury History, the Pacific and Australian Antarctic regions and the Applied Arts and to carry out and encourage related public education and research.

Salary: N.Z. $30,000 – $37,000

Qualifications – Honours degree or equivalent, supplemented by administrative skills together with scientific skills based on Museum curatorial duties including display, curating and maintenance of collections.

For schedule of further information (telephone or write to the Secretary, Canterbury Museum Trust Board, Rolleston Avenue, Christchurch 1, New Zealand (Telephone 64-3 795).

Applications close on 31st July 1982. H12

Don's diary

Sunday

Remembering a Don's Diary which ended with a barbecue on a Californian beach I resolve to keep a wife's diary of my own – certainly my husband won't have time to do it.

Monday

Half-term for the schools, but younger daughter has earache so we begin it with a trip to the surgery. T. sets off with laden briefcase: apart from lectures he has two committees today. When he took on the dean's job he thought he knew its commitments, but that was before the Government wielded the big axe; a monstrous spawning of committee work has followed. This week's batch are mostly about the "SARCs" (Subject Area Review Committee reports). The "Snark" inevitably comes to mind, and T. says he certainly senses the presence of a Boojum.

On Monday evenings I have an A level English class, but at ten to seven T. still hasn't appeared so have to leave the children on their own, hoping it won't be for long. Being late I have trouble parking of course. My F.E. college shows the inevitable signs of financial cutback – grubby walls, windows that won't close, heating turned off early. But since the Arctic snows cut my class numbers I have moved into a civilized little room with its own heater, and now peer at my students through the leaves of a rubber plant.

Monday evening is often a sticky class, but today a refugee from Wednesday livens things up and we have a good discussion of Hardy. When we break I rush to the phone wondering what I shall do if he's not there – but he is, just, and I go back to First World War poetry. The other day I listened to an interview with Sir Keith Joseph who told us that after a "painful" period the new "slimmer" universities would "enhance civilization". Surely the quality of leadership has not changed much from those days when soldiers were promised a "land fit for heroes" to return to?

Tuesday

It is the first of the examiners' meetings for this year's finals papers at Senate House today, but there is also a rail strike, so I get up early to drive T. to the nearest tube station; as the verges around are littered with cars for half a mile or more it's as well he didn't drive himself. I get home after an hour and a round trip of 32 miles. In the afternoon the children and I visit friends, but leave in time for a phone call from T. for collection. We watch a film on television – I've seen the second half before and hope not to be called away till I've caught up, but in the event the phone doesn't ring at all and at 9pm T. is back, a kind colleague having given him a lift.

Wednesday

No rail strike today, so T. can have his usual journey to Waterloo for the second examiners' meeting. He will be late though, as he has a 9 o'clock lecture first. Elder daughter goes off to a friend's house, younger daughter has her friend here. They play at dressing up, and while I am getting the prince and princess's tea T. comes in, so there's no problem with tonight's class. My Wednesday group is always lively, and we amuse ourselves in our break with a chat about awful-head-teachers-we-have-known. When I get back T. is preparing tomorrow's classes. He still has six tutorial essays to mark but is soon too tired to go on, and has to rely on waking in the middle of the night to get them finished.

Thursday

T. has an appointment at the dentist at 9 this morning. At 9.30 I get a call from the departmental secretary: where is he? He has been called to an extrn meeting in the afternoon. We commiserate on the workload, I thinking furiously of those essays marked in the small hours for tutorials now to be postponed. I take the children for a treat to see *Snow White*. It is their first visit to the cinema and I feel it should be a seminal experience, but they leave drooping. Some good news and some bad news await T's return. The good news is that his Greek evening class for which he hasn't had time to do the homework is cancelled. The bad news is contained in an envelope marked Jury Service. He has been summoned for "probably not more" than two weeks in April. This is a blow: he had been relying on the vacation to write a promised article (and I had hoped for some help with gardening). We all spend the evening listless and irritable.

Friday

The children seem to need to recover from *Snow White* (perhaps it was seminal after all) and of their own free wills forgo a trip to Richmond Ice Rink. T. has a lecture and then a lunch and meeting with a group from another college for preliminary discussions on the possibility of merger. He does not expect it to go on beyond mid-afternoon; in fact it's 6.30pm before he returns, but at least it seems to have been a stimulating occasion. Perhaps the future is not quite so darkly dyed? He spends the evening with a fat file for tomorrow's meeting of the academic board on the SARC reports.

Saturday

T. off to the 10am meeting, hoping that at least they'll get a cup of coffee. He thinks everyone will be wanting their dinners by 1pm so he should be home soon afterwards. But at two he isn't back and I have promised to visit a friend in hospital, so issue cooking instructions to elder daughter. Just as I'm going he appears, but like a fool I stand there watching daughter ineptly turning a chicken joint in the frying pan, and getting her favourite waistcoat splashed with fat. I leave, guiltily, in the midst of recriminations.

In hospital my friend tells me of the deterioration there: paper pillowcases to save laundry costs, no toilet rolls in the loos, nurses told to use less plaster to secure dressings. In turn I grumble at Sir Keith and his plans for the enhancement of civilization. Home again to find peace restored, the children happily playing, T. on the settee doing nothing. Tomorrow when he opens his briefcase he'll regret it, but today it's a real pleasure.

Hester Davenport

The author is a part-time lecturer at Windsor and Maidenhead Further Education College, her husband is senior lecturer and dean of arts at Royal Holloway College.

America today

Cultivation scarce in the multiversity

Peter David

SAN FRANCISCO

Nearly two decades have passed since Clark Kerr, then still president of the University of California, delivered the Godkin Lectures at Harvard and announced the discovery of what he called the multiversity. Kerr's thesis was that knowledge had become so central in the development of advanced societies that the position of the universities would be analogous in the late twentieth century to those of the railways and the motor car in the nineteenth century.

The universities had become too important to be left to the professors. Cardinal Newman's ideal of the community of scholars was dead forever. Instead of serving a single, internally defined purpose, the multiversity would become so many things to so many different people that it would perpetually be at war with itself.

Today it is impossible to visit the great universities of the United States without being struck by the persistence of the themes outlined in those 1963 lectures. At multiversities as different as Harvard and Berkeley the process of Balkanization has accelerated so fast that many of the academics who staff them have ceased to think of the universities as significant institutional entities, let alone as ideals or the embodiment of a set of values. The dominant institutional reality for research scholars at the modern university has become the departmental unit and the external funding agency.

The main loyalty is no longer to the university but to colleagues in the discipline at other institutions and in other countries.

There is a host of reasons for this shift in perceptions. The pressure to generate outside sponsorship for research, the unwieldy size of the great American campuses, and the explosion and differentiation of new knowledge have all played a part.

Today's academic is a cosmopolitan expert likely to feel equally at home in any university regardless of its particular tradition or ethos. In Route 128 in Boston or in California's Silicon Valley attest to the vibrancy of these institutions. And another revolution based on the industrial application of new biological techniques is gathering pace around Harvard, Stanford and MIT.

But there have been losses too. One of the most important is the undervaluing of teaching relative to research. Many academics no longer regard education as an important part of their work. Although both Harvard and Berkeley, for example, have spent bureaucratic energy on attempts to define the main elements of an undergraduate curriculum, the pattern is still to leave undergraduates to find their own way through a maze of narrow elective courses which mirror the research interests of teachers but lack wider intellectual coherence.

The neglect of the undergraduate curriculum is not bad just for the students; it is bad for the university because the teaching of undergraduates is one of the last domains in which academics can integrate and organize the proliferation of new areas of knowledge.

Yet fewer and fewer leading scholars show interest in teaching broad survey courses like the history of western thought or science. Fewer scholars believe it is even possible to know very much about a wide range of subjects. Polymathy has disappeared and even general cultivation is becoming scarce in the American multiversity.

This fragmentation of expertise has moral as well as intellectual consequences. If the world can be understood only in narrow segments, the university must begin to question its competence to generate anything that resembles general values. It becomes a passive institution despite the dynamism of its constituent parts, a metaphor for a society of impressive practical competences, but lacking in character a society that prizes the intellect but has abandoned the search for wisdom.

Clark Kerr, speaking at Harvard, foresaw the multiversity

Union view

A cultural hostility to education

One day the hostilities in the South Atlantic are going to end. Then we're going to find out whether or not the support for the Government indicated in the local elections was really a flash in the pan. The Government claims that the crisis has served to obscure a real recovery in the economy. The Opposition argues that it has hidden the continuing terrifying rise in unemployment levels and cuts in welfare provision and standards of living.

It certainly relegated a recent speech by Mr Biffen to the inside pages. The speech was a strident reaffirmation of monetarist principles, and when applied to the public sector called for a system of education and welfare based on willingness to pay. I believe that the Falklands affairs has exemplified rather than altered the mood of the country and that, all things being equal, we are facing the awful prospect of a second term in office of a high-tech Social Darwinist government.

Why the pessimism? Well look at it from the student point of view. In his recent appearance before the Select Committee, Sir Keith Joseph was asked some fairly searching questions about student grants. How were students to keep body and soul together when many of their grants would be lower next year, and prices so much higher? His answer was that they should borrow (from whom? I don't think the clearing banks were consulted!), or take on jobs (what jobs?) or "stint".

I understood "stinting" to mean either accepting impossibly bad living standards, or being prepared to give up your course. In that context Sir Keith's comments are an absolute scandal. But his callousness has not elicited a rush of letters from prominent academics to British newspapers talking about the threat to access. That particular battle is left entirely to the students themselves, as if there were no real principle at stake.

NUS

Or take the position on cuts in expenditure on education, and their effects on jobs. After the dire threats issued by the unions concerned most institutions are finding that the level of acceptance of voluntary retirement schemes will be sufficient. It is understandable that individuals fixed with an uncertain future should take this way out.

But it's the future jobs of current students that are disappearing, the teachers of future students who now won't get the chance who are going, and the intellectual refreshment of new blood in our colleges that is being jeopardized. And the silence is deafening.

Meanwhile, it is becoming increasingly clear that these problems (and fundamental problems they are too, lest we forget) will not be resolved by a section-by-section defence of the status quo. That is what NUS has been saying in these columns for several years now. The Government continues to rely on a degree of cultural hostility to the education service that exists within a community that doesn't see itself as beneficiaries of that service.

Only an imaginative campaigning approach that recognizes the need for change can possibly hope to get through to enough people to alter the political mood. Now, saying that is easy. The difficult bit is going beyond that stage, and actually doing something about it.

It means union leaderships sticking their necks out a bit. It means overcoming some of the more traditional divisions that exist between different groups working within education (the consumers and the teachers, the academic and the ancillary), and between those inside and those outside.

It means putting time, effort and money into the Education Alliance and its Education Week, planned for next October, and doing the advance planning necessary to ensure that it's a success.

Otherwise let's stop pretending. And let's hope that the South Atlantic crisis goes on. At least it will give our under-educated young people something to do.

David Aaronovitch

The author is president of the National Union of Students.

LETTERS TO THE EDITOR

Merrison's remedy for funding problems

Sir, – You take a very self-confident swipe at the dual support system (*THES*, April 30) and you have no doubt seen more of the Merrison report than others. But it does not need a sight of Merrison to wonder at some of your premises. It isn't so much that you say, without arguing it, that the horse should be shot, while Merrison, it seems, and certainly some others, think that a shot of oats might be the thing. It is that you seem to think that things were once very different, that the allocation of resources was even or had an "indiscriminate quality". If that odd phrase means that the University Grants Committee used once to be undiscriminating, then Sir W. Moberley's body must be revolving.

What evidence is there that there was no hierarchy in the 1950s, or that, say, University College, Leicester, had as cooked a deal as, say, Imperial College? You might not find much at Leicester, or at a few other places. Of course everyone was very decent (or as you might say, "dishonest") about it, on paper; and no doubt the pecking order did get blurred in the euphoric 1960s.

When you say that today "some universities are being reduced to the status of resource bases for entrepreneurial departments and individuals" as if that were new and terrible, you are accurately describing many universities in the late 1960s whose vice chancellors often just so described their institutional role; while the individuals, a few of whom I interviewed in some depth, revelled in it. The phrase is not a bad short description of the whole system and most institutions since 1919. It is not surprising that hierarchy began to re-emerge in the 1970s and has become more overt in the 1980s. Not enough for some, notably the president and immediate past president of the Royal Society.

More interesting is your alternative horse. You recoil, fashionably, from the UGC because it might gain "worrying influence". So, "Perhaps the ABRC might be able to develop into a more substantial body responsible for the overall planning of research". The interesting point is why you should think that "a body" could be capable of "planning research". There have after all been numbers of attempts to plan quite large areas of research: like the Social Science Research Council or the research requirements divisions of various ministries. Who supposes that they have been very successful? You have just told us that alternative energy research is to be virtually wound up: this was probably as highly organized an area as it is ever reasonable to expect. You should spell out the mechanisms and indicate the human qualities required to enable abracadabra to plan and direct the whole of the field. And show how it might be done without the prime planning tools, oats.

If Merrison's judgment is not persuasive, then perhaps a little systematic research is called for into the effectiveness of various patterns of planning here and overseas. This society's Leverhulme study has shown that there are plenty of people able to conduct it, though I doubt if any central stick would move them. It might be better to try a research council's carrot. The results would I suspect do much to restore the view that the UGC is a fine instrument, and that it has been finely conducted.

Yours faithfully,
ROWLAND EUSTACE,
Administrator for the Society for Research into Higher Education, at the University of Guildford, Surrey.

Sir Keith's letter

Sir, – You report that Sir Keith Joseph told five vice chancellors "to amend their statutes if they are legally unable to dismiss staff", and that "he will ensure their proposals are given 'speedy' consideration in the Privy Council" (*THES*, May 7). If the report is correct in substance and tone, it suggests that the Government is now escalating an already dishonourable policy of wholesale breach of legal contracts into an overt menace of what seems tantamount to retrospective legislation. This marks a new level of decline in public standards and public trust, surprising in a Government which professes the importance of law and order, and a party whose name might imply an attachment to the older decencies.

Yours faithfully,
C. J. RAWSON,
Professor,
Department of English
University of Warwick,
Coventry.

Sir, – I should be grateful if you would allow me, as an "unnecessary academic", to make two comments on the letter from Sir Keith Joseph to the vice chancellors of five technological universities.

First, there is a fundamental incoherence in the idea of compensation for loss of tenure. Tenure, by definition, is not the kind of thing that can be lost. To paraphrase Oscar Wilde: to lose a good job would be unfortunate; to lose a secure position would be careless; to lose tenure is actually impossible. If it turns out that dismissal, on the other hand, is possible, and compensation is paid, this can only be compensation for the mental distress involved in discovering that one did not, after all, have tenure.

Second, the notion that academic freedom can be preserved while reasons like redundancy and financial stringency can be used to end careers, although not a contradiction shows at least a fundamental naivety about human nature. Academic politics must become a very much dirtier and more dangerous game if the rules are changed in this way. Provisions of this kind place a loaded gun in the hands of the hostile and influential; and no attempt to deflect it can be expected from people otherwise altruistic enough to want to resist, who may find themselves in the firing-line if only the direction of aim is changed.

Yours sincerely,
BRENDA COHEN,
Department of philosophy,
University of Surrey.

Sir, – Sir Keith Joseph is reported to have promised the vice chancellors of five universities that he will ensure that their proposals to amend their statutes in order to be able to dismiss tenured staff are given "speedy" consideration in the Privy Council. Would it not be simpler and cheaper for Sir Keith to get the Privy Council to declare refusal to relinquish tenure a capital offence and have the staff shot?

Yours faithfully,
ALAN L. HERSH,
Senior lecturer in French,
Brunel University.

Confusion of terms

Sir, – There is enough confusion in this country over the use of the words "chemist" and "pharmacist" without a journal such as yours adding to it in your article (*THES*, May 7) the word "chemist" is used in the headline (but not in the article itself) in an article about pharmacy. May I ask that in future your journalists use the appropriate terms and do not call pharmacists chemists.

Yours faithfully,
R. D. GUTHRIE,
Secretary general,
Royal Society of Chemists,
Burlington House,
London W1V 0BN.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Part-time degrees

Sir, – Further to your recent report by Charlotte Barry and Karen Gold on the neglected state of part-time degree courses in universities (*THES*, April 23), those of your readers involved in continuing education may be interested to know that the department of English and drama at Loughborough University of Technology is to begin enrolment shortly for a new part-time BA honours degree in English.

The programme, in which part-time and full-time students study together, will take between five and seven years to complete, and includes introductory courses for students whose previous educational experience has been limited or unconventional. The overall content of the degree is identical with our customary full-time programme, with a wide range of options in English and American literature, language studies, and creative writing.

We have no shortage whatsoever of well-qualified 18-year-olds applying for places at Loughborough. However, our department has been seriously committed for a number of years to meeting the needs of mature students through our existing full-time courses. This degree will deepen and broaden that commitment. It responds to the changing world of work today, family difficulties, financial constraints. Our preliminary research shows us clearly that our new degree is warmly welcomed by many potential students in the east Midlands.

Full details of the programme will be published shortly. Meantime I would be happy to hear from any colleagues in adult education or from potential students who may have queries.

Yours faithfully,
PETER LEWIS,
Department of English and drama,
Loughborough University of Technology,
Loughborough,
Leics.

The abuse of power

Sir, – I have read Mr Woodhead's letter about my review of Patricia Hewitt's book, *The Abuse of Power*, and I have three points to make.

First, the matters raised in the book are too important for "the tradition of academic scepticism". It might have escaped your correspondent's notice that Messrs Peach, Sands, Neville, the Shrewsbury pickets, *et al.*, for whose welfare Miss Hewitt shows so much concern, did not conflict their activities to the other forms of academic discourse. Secondly, about my assumption of the superiority of the liberal polity, I would remark that only in such polities does a market place of opinion exist, and social cross-pressures, to which Mr Woodhead seems attached, operate. In the sort of state to which Miss Hewitt's analysis inevitably leads, they don't, and never will, as she and your correspondent would quickly discover. Thirdly, political bias or no political bias, I have never tolerated palpable rubbish, and palpable rubbish is what much of the book in question consists of.

Yours faithfully,
S. A. WALKLAND,
Department of political theory,
University of Sheffield.

Franglais

Sir, – Thirdly's excellent review of Seznec's work on Flaubert (*THES*, April 30) has no doubt warmed the cockles of the heart of many a schol ar. The distinguished professor has however acknowledged rather candidly the difficulty of rendering in English some of the subtleties that are central to the French language as it has served unwittingly, I am sure, in his transliteration of "*nul ne peut se vivre sans se faire*". Your learned readers are likely to take "*se vivre*" to mean in the given context that "no one can get on with life without shaping his whole being".

Will anyone else want to "*relever le gant*"?

Yours faithfully,
A. S. LINCE,
Faculty of humanities,
North East London Polytechnic.

Let Bradford be

Sir, – I think it a pity, and I am sure I speak for the vast majority of my present and future colleagues at Ilkley and Bradford colleges, that you should have published your recent article on events in Bradford (*THES*, April 30).

First there are inaccuracies in your account. Secondly, and more importantly, now that the dust has settled such an article can only stir it up again and make it more difficult to establish the new college successfully.

Ilkley staff are no more, and no less, concerned over the principal designate than they would be about any new, relatively unknown, boss. Neither is it true that the Labour group has been discredited; it was not the chief executive who forced it back to its original policy, it was its own courage and good sense.

Ironically, most people involved in the issue have, finally, emerged with credit. These include leading members of both party, elected members, officers, academics and the unions. Indeed it is now possible to see that, although there may have been some unwise, even devious, manoeuvring, everybody has acted from a genuine concern to protect education, including higher education, provision in the district.

Those of us at Ilkley College, who have already gone through a merger (1978) which had much less justification than the present one, have learned from recent events that there are many people in Bradford who care about education and are determined to make it possible for the new colleges to save as much as it can from the wrecking hands of the present national government. So, please, stop stirring; it may be good journalism but it is not good for the new Bradford college.

Yours, etc,
PETER G. SQUIBB,
Head of department of humanities,
Ilkley College,
West Yorkshire.

Professional standards

Sir, – Both your editorial (*THES*, May 7) and your reports on the Leverhulme seminar on the teaching function mention the role which teaching unions can play in the professional development of academic staff.

I must confess to being the member of the seminar who accused the unions of concentrating too much on salaries and car-parking. My comment was figurative: it referred to the need for an active concern for professional standards by the teaching unions. They must initiate and not merely respond. They need energetically to establish codes of practice (for teaching, research, administration, community involvement) instead of merely defending members against criticism or attack.

In suggesting that some of the energy which has in the past been devoted to material gain should be channelled towards the improvement of professional skills, I am not demanding *new* functions for the unions. I am simply asking for greater priority to be given to a task which professional associations have more right to perform than employing institutions or government.

Yours faithfully,
ALEX MAIN,
Adviser on educational methods,
University of Strathclyde.

Sir, – With reference to your leader and the report of the Leverhulme seminar, the only way in which the attitude of universities towards teaching might be changed and a generally high standard of achievement at undergraduate level ensured is to arrange for degree examinations to be common to many universities, to set and mark the papers externally and to publish the results in such a way that the performances of universities can be compared. Why isn't this done?

Yours faithfully,
R. STBADMAN,
38 Heaton Grove,
Bradford,
West Yorks.

Course approval

Sir, – At its meeting on May 4, the National Advisory Body discussed a report on programme approvals, and asked that the outline proposal it contained be developed for further consideration. So that in advocating the end of the current course by course approval system (*THES*, May 14), you are preaching to the converted.

However, as the regulations stand *at the moment* (and as you rightly recognize), the Secretary of State's powers relate to individual courses. Hence the need *both* to provide for some new courses to start in 1983, *and* to tackle at least some aspects of the serious problem to which you refer. The board has started on both tasks, and is recommending that a replacement for Circular 1/82 be issued this term.

Moreover, the board has already had a first brief look at a report sketching out a pool allocation system based on an institutional approach: but do you really believe that "A . . . college should be free to establish its own resource priorities within an overall staff/student ratio or within a cash-limited grant"? Some guidance on programme areas, and on the balance of provision by both level and mode is surely essential.

It is precisely because the answers are *not* easy that we have a real job of work to do.

Yours faithfully,
JOHN S. BEVAN
Secretary,
National Advisory Body for local authority higher education,
County Hall,
London, SE1.

Correction

Sir, – You print a letter from me (*THES*, May 7). Unfortunately, you give the institution as the University of Manchester. I would be obliged if you could print a correction to this.

Your faithfully,
NIGEL WHITELEY,
Head of department of visual arts,
University of Lancaster.